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गोन्दवाना प्लेस, कान्के रोड, राँची - 834 031, झारखंड (भारत)
Central Mine Planning & Design Institute Limited
 (A Subsidiary of Coal India Limited/ Govt. of India Public Sector Undertaking)
 Gondwana Place, Kanke Road, Ranchi - 834 031, Jharkhand (INDIA)
 Corporate Id nos. 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1

फैक्स / स्पीड डाक द्वारा

पत्रांक : सीएमपीडीआई/बी.डी./C(900)/23

दिनांक : 13.01.2017

To:

The Chairman & Managing Director
MAHAGENCO
Prakashgard, Plot No.G-9
Boroda (E)
Mumbai - 400 051
Fax: 022-2647-4211



Sub.: Vesting of Geological boundary coordinates and 14 numbers of villages covered under Gare Palma Sector-II coal mine.

- Ref.: (i) Allotment order & Amendment Agreement signed on 31.08.2015 Gare Palma-II coal mine.
(ii) MoC Notice F. No.104/28/2015/NA dated 13.10.2015.
(iii) Work Order No.Mahagenco/ED/(Fuel/Coal)/44, dated 15.02.2016 to CMPDIL.
(iv) Letter from CMPDI – CMPDI/BD/C(900)/262 dated 07.06.2016
(v) Email from CMPDI dated 22.08.2016
(vi) Mahagenco letter to NA, MoC dated 24.08.2016.
(vii) Letter from Secretary, Mineral Resource Department, Chattisgarh vide letter dated 28.09.2016 to MoC.
(viii) Mahagenco/MD/34C/368 dated 29.12.2016.

महोदय,

Kindly refer to the letters mentioned above. A report on "Marking on Ground & Map Preparation of Coal Block Boundary of Gare Palma Sector-II of M/s. Mahagenco in Raigarh District, Chattisgarh" along with related plan was submitted vide letter No. CMPDI/BD/C(900)/262 dated 07.06.2016 against the work order placed by M/s. Mahagenco vide No. Mahagenco/ED/(Fuel/Coal)/44 dated 15.02.2016. The above report was prepared based on the plan in coal grid submitted by M/s. Mahagenco to CMPDI. There was a very minor deviation in the coordinate of the cardinal points available with MoC vis-a-vis mentioned in the report based on DGPS survey.

A revised report along with the map is enclosed for further necessary action at your end.

Encl: 5 copies of the report along with CD.

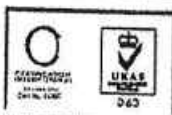
Copy to :

Sri N.K.Singh, Deputy. Secretary, MoC, GoI.

O/o The Nominated Authority, 131, Ground Floor, World Trade Centre, Babar Road,
New Delhi- 110001.

This has reference to your letter F.No. 103/30/2015/NA dtd. 30.12.2016. I am directed to mention that the bounding co-ordinates given in the allotment order of Gare Palma Sector-II Coal Mine remains unchanged.

महाप्रबन्धक (व्यवसाय विकास)



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DM/13

07/03/17



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**Report
on
Marking on Ground & Map Preparation
of Coal Block Boundary of
Gare Palma Sector-II of M/S Mahagenco in
Raigarh District, Chattisgarh
(Revised)**



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(Revised)**

सर्वेक्षण एवं आरेखण विभाग
जियोमेटिक्स डिविजन
सी.एम.पी.डी.आई (मुख्यालय)

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ANNEXURES

ANNEXURE NO.	TOPIC
I	Letter no. CMD/Mahagenco/CMPDIL/07 dated: 06.10.2015
II	Letter no. CE(Coal)/CMPDIL/35 dated: 17.11.2015
III	Letter no. Mahagenco/ED(Fuel/Coal)/44 dated:15.02.2016
IV	Letter no. Mahagenco/ED(Fuel/Coal)/75 dated: 15.03.2016

DRAWINGS

DRAWING NO.	SUBJECT
HQ - S&D – N16044 (R1)	Plan Showing Gare Palma Sector – II Coal Block Boundary alongwith Boundary Points.



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M. D. P.

Report on marking of Gare Palma Sector-II Coal Block boundary on ground and preparation of map

1.0 Introduction

M/s. Maharashtra State Power Generation Company Limited (MAHAGENCO) requested CMPDI vide letter No. CMD/Mahagenco/CMPDIL/07 dated 06.10.2015 (Annexure-I) and subsequent letter no. CE(Coal)/CMPDIL/35 dated 17.11.2015 (Annexure-II) for marking of Gare Palma Sector-II Coal Block boundary on ground and on the map. CMPDI vide letter No. CMPDI/BD/A(003) Offer V-XXII/E-3364 dated 30.12.2015 submitted the proposal to MAHAGENCO. Executive Director (Fuel/Coal), Mahagenco issued a work order vide letter No. Mahagenco/ED (Fuel/Coal)/44 dated 15.02.2016 (Annexure-III) for the above job and submitted the required data to start the field work vide letter no. Mahagenco/ED (Fuel/Coal)/75 dated 15.03.2016 (Annexure-IV).

2.0 Background

The Nominated Authority, Ministry of Coal, Govt. of India vide its allotment order no. 103/30/2015/NA dated 31.08.2015 has allotted Gare Palma Sector-II Coal Block to the Maharashtra State Power Generation Co. Ltd. (Mahagenco) for utilization of coal for power projects.

For the development of the allotted Coal Block, the first requirement is to mark the Block Boundary on the ground.

3.0 Scope of the Work

The scope of the work is as follows:

- i. Marking of Gare Palma Sector-II Coal Block on ground.
- ii. Preparation of plan of block boundary in WGS 84 co-ordinate system.

Note: Pegging / pillaring at the site will have to be done by the client (MAHAGENCO).

4.0 Data Used

A plan of Gare Palma coal block in Coal Grid duly certified was provided by M/s Mahagenco. The plan was geo-referenced and boundary coordinates were extracted from the plan. The coordinates were used to



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demarcate the boundary of the Gare Palma Sector-II Coal Block on ground.

5.0 Methodology

5.1 Differential Global Positioning System (DGPS)

Execution of the job was planned on the basis of plan of the area provided by the MAHAGENCO. For the job, DGPS (Differential Global Positioning System) survey was found to be appropriate for demarcation of the Coal Block boundary.

The Global Positioning System (GPS) is a satellite-based location, timing and navigation system in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. Presently, more than 30 orbiting satellites of GPS constellation of USA and 24 GLONASS satellites of Russia are operational for the purpose of GPS survey. With four or more satellites, a GPS receiver can determine a 3D position (i.e., latitude, longitude, and elevation).

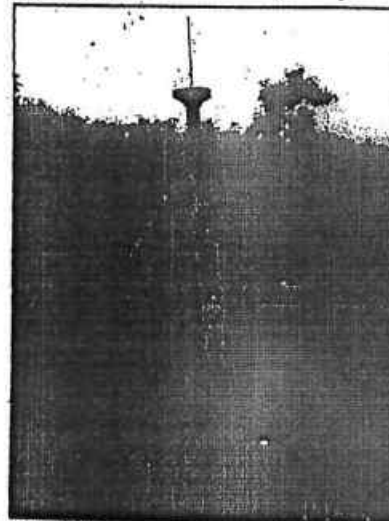
Differential Global Positioning System (DGPS) refers to using two or more GPS receivers to achieve greater positional accuracy. Basic methods of DGPS survey are Static, Rapid-Static, Real-time Kinematic (RTK) to attain higher level of accuracy.

The coordinates of the boundary points of Coal Block were known in Coal Grid Coordinates, which were converted into UTM coordinates. These points had to be staked out in the field. Stake out through Real time Kinematic (RTK) Survey was found to be most suitable. In RTK surveys, one GPS receiver is used as base and other GPS receiver can be used as Rover. Base receiver is stationed at a point of known co-ordinates for longer duration. The rover receivers are localized with respect to three known points and then boundary coordinates are staked out.

ArcGIS software is suitable for preparation of map of the block boundary in WGS-84 co-ordinates.

5.1.1 Survey Instrument

For stake out of block boundary coordinates, DGPS consisting of one base receiver and two rover receivers were used. Brief specifications of the DGPS are as follows:





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(A)	Instrument:	
	Make	Topcon
	Model	GR3 (Receivers)
	Signal	GPS: L1, L2 & L5 carrier, CA, L1 P, L2 P, L2 C GLONASS: L1, L2 & L5 carrier, L1 CA, L2CA, L1P, L2 P GALILEO: E2-L1-E1, E5, E6
	Channels	72
	Accuracy:	
	Post Processed Static DGPS	3mm + 0.5ppm horizontal, 5mm + 0.5ppm vertical
	Real Time RTK	10mm + 1 ppm horizontal, 15mm + 1 ppm vertical
	Power:	
	Internal Battery	2 Li-Ion, 3900mAh, 7.2V
	Communication:	
	Bluetooth	Bluetooth standard 1.2
	USB	1.1 Version
B)	Software	i) TopSurv 7 for data recording ii) Topcon Tools v 7.2 for data processing

5.1.2 Details of Field Work

- Reconnaissance survey was done after reaching the site. Officials from Mahagenco were associated during reconnaissance and subsequent survey work.
- Four stations P4/6a1, P4/6a2, ATM1 and PATA1 were established in the field by DGPS in static mode with reference to the earlier established station P7/11 near boundary of Gare IV/7 and IV/8 coal blocks. Base receiver was stationed at P7/11 station for about 8 hours and rover receivers were stationed at the four stations for about 2 hours on each station.
- Recorded data is downloaded from the GPS and processed in Topcon tools software to get post-processed WGS-84 co-ordinates of the surveyed stations. The WGS-84 coordinates are converted into UTM coordinates through the software.



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- d) Base receiver of DGPS was stationed at P4/6a1 and Rover receiver is localized in UTM through P7/11, P4/6a2 and PATA1 stations. The boundary points are staked out through rover receiver one by one. The Co-ordinates of control points are as follows:

Station Name	Observed Geographic Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing	Easting
P7/11	22°09'53.37527N	83°29'44.69615E	2453186.826	757373.176
P4/6A1	22°07'34.83780N	83°28'58.84973E	2448902.828	756128.955
4P/6A2	22°07'36.23289N	83°29'01.34544E	2448946.920	756199.797
ATM1	22°06'51.62053N	83°27'42.61643E	2447537.620	753965.160
PATA1	22°08'07.77881N	83°28'06.51629E	2449891.899	754612.290

1.1.3 Computation

- The UTM coordinates of the block boundary are imported in Arc GIS software and by making boundary by joining the boundary points, plan is prepared.
- The UTM Grid and geodetic/ geographical co-ordinates along the block boundary is tabulated in Table-I.
- Geographical coordinates of cardinal points along the block boundary is tabulated in Table-II.

6.0 Final Output

Following output were generated :

- Map of block boundary in 1:10000 scale.
- CD containing shape file of block boundary.



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TABLE - I

List of Coordinates (in WGS 84 & UTM) of points along Block Boundary of Gare Palma Sector-II of M/S Mahagenco Limited

Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P1	22°08'51.49500N	83°26'15.58000E	2451185.571	751410.823
P2	22°08'50.79013N	83°26'16.59930E	2451164.354	751440.386
P3	22°08'49.69673N	83°26'18.18044E	2451131.441	751486.243
P4	22°08'48.70411N	83°26'19.61583E	2451101.562	751527.874
P5	22°08'47.64300N	83°26'21.15025E	2451069.621	751572.377
P6	22°08'46.54240N	83°26'22.74177E	2451036.492	751618.537
P7	22°08'45.43477N	83°26'24.34343E	2451003.151	751664.990
P8	22°08'44.40691N	83°26'25.82974E	2450972.211	751708.099
P9	22°08'43.31953N	83°26'27.40210E	2450930.480	751753.703
P10	22°08'42.03928N	83°26'29.25412E	2450900.944	751807.418
P11	22°08'41.00876N	83°26'30.75026E	2450869.928	751850.811
P12	22°08'39.95528N	83°26'32.27975E	2450838.220	751895.170
P13	22°08'38.91492N	83°26'33.78374E	2450806.905	751938.792
P14	22°08'37.91099N	83°26'35.21325E	2450776.676	751980.262
P15	22°08'36.70901N	83°26'36.92477E	2450740.484	752029.913
P16	22°08'35.52091N	83°26'38.62724E	2450704.715	752079.297
P17	22°08'34.50103N	83°26'40.10480E	2450674.018	752122.153
P18	22°08'33.42797N	83°26'41.65938E	2450641.720	752167.242
P19	22°08'32.40145N	83°26'43.13466E	2450610.818	752210.036
P20	22°08'31.24846N	83°26'44.77790E	2450576.102	752257.706
P21	22°08'30.13291N	83°26'46.36649E	2450542.513	752303.792
P22	22°08'28.96695N	83°26'48.05924E	2450507.422	752352.888
P23	22°08'27.74481N	83°26'49.77168E	2450470.611	752402.577
P24	22°08'26.64987N	83°26'51.39600E	2450437.673	752449.678
P25	22°08'25.43155N	83°26'53.09650E	2450400.975	752499.023
P26	22°08'24.24431N	83°26'54.73814E	2450365.205	752546.666
P27	22°08'23.06131N	83°26'56.45378E	2450329.601	752596.429



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P28	22°08'21.75806N	83°26'58.34383E	2450290.377	752651.250
P29	22°08'20.58602N	83°27'00.04355E	2450255.102	752700.551
P30	22°08'19.43118N	83°27'01.71833E	2450220.345	752749.128
P31	22°08'18.19532N	83°27'03.52419E	2450183.157	752801.504
P32	22°08'17.05657N	83°27'05.20077E	2450148.896	752850.125
P33	22°08'15.95277N	83°27'06.82586E	2450115.687	752897.254
P34	22°08'14.90385N	83°27'08.32614E	2450084.109	752940.779
P35	22°08'13.76211N	83°27'09.95816E	2450049.736	752988.125
P36	22°08'12.63316N	83°27'11.57337E	2450015.750	753034.984
P37	22°08'11.48096N	83°27'13.22217E	2449981.063	753082.817
P38	22°08'10.18401N	83°27'15.07429E	2449942.017	753136.551
P39	22°08'09.00333N	83°27'16.75527E	2449906.469	753185.321
P40	22°08'07.72331N	83°27'18.57671E	2449867.930	753238.167
P41	22°08'06.42480N	83°27'20.41468E	2449828.830	753291.496
P42	22°08'05.07918N	83°27'22.34346E	2449788.323	753347.452
P43	22°08'03.76476N	83°27'24.24030E	2449748.761	753402.478
P44	22°08'02.60420N	83°27'25.92417E	2449713.835	753451.322
P45	22°08'01.53118N	83°27'27.48208E	2449681.543	753496.513
P46	22°08'00.37268N	83°27'29.17993E	2449646.687	753545.757
P47	22°07'59.12893N	83°27'31.00809E	2449609.268	753598.780
P48	22°07'57.98446N	83°27'32.65883E	2449574.821	753646.667
P49	22°07'56.72525N	83°27'34.46857E	2449536.919	753699.170
P50	22°07'55.45116N	83°27'36.29771E	2449498.567	753752.237
P51	22°07'54.15157N	83°27'38.16046E	2449459.447	753806.279
P52	22°07'52.81841N	83°27'40.06867E	2449419.315	753861.642
P53	22°07'51.55754N	83°27'41.87201E	2449381.359	753913.963
P54	22°07'50.33119N	83°27'43.61535E	2449344.437	753964.548
P55	22°07'49.03851N	83°27'45.44981E	2449305.517	754017.777
P56	22°07'47.72881N	83°27'47.32902E	2449266.094	754072.298
P57	22°07'46.55766N	83°27'49.02419E	2449230.849	754121.475
P58	22°07'45.12944N	83°27'51.07345E	2449187.859	754180.930



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P59	22°07'43.76489N	83°27'53.02432E	2449146.782	754237.534
P60	22°07'42.38209N	83°27'55.00388E	2449105.158	754294.969
P61	22°07'40.95597N	83°27'57.04613E	2449062.230	754354.223
P62	22°07'39.64908N	83°27'58.94300E	2449022.903	754409.251
P63	22°07'38.38733N	83°28'00.78281E	2448984.938	754462.621
P64	22°07'36.87600N	83°28'02.94895E	2448939.446	754525.470
P65	22°07'35.40781N	83°28'05.01712E	2448895.237	754585.490
P66	22°07'34.08504N	83°28'06.92777E	2448855.428	754640.921
P67	22°07'32.68595N	83°28'08.94988E	2448813.324	754699.587
P68	22°07'31.38924N	83°28'10.82549E	2448774.301	754754.002
P69	22°07'30.09223N	83°28'12.70148E	2448735.269	754808.428
P70	22°07'28.67002N	83°28'14.76943E	2448692.475	754868.420
P71	22°07'27.25089N	83°28'16.82831E	2448649.771	754928.150
P72	22°07'25.70298N	83°28'19.03756E	2448603.176	754992.257
P73	22°07'24.34933N	83°28'20.99241E	2448562.439	755048.973
P74	22°07'23.03770N	83°28'22.87503E	2448522.962	755103.627
P75	22°07'21.62911N	83°28'24.92474E	2448480.579	755163.062
P76	22°07'20.13457N	83°28'27.09437E	2448435.608	755226.007
P77	22°07'18.74304N	83°28'29.05434E	2448393.709	755282.891
P78	22°07'17.33295N	83°28'31.07229E	2448351.266	755341.446
P79	22°07'16.12795N	83°28'32.80852E	2448315.002	755391.822
P80	22°07'14.84746N	83°28'34.63877E	2448276.459	755444.932
P81	22°07'13.48258N	83°28'36.58107E	2448235.372	755501.297
P82	22°07'12.15437N	83°28'38.49091E	2448195.399	755556.713
P83	22°07'10.86881N	83°28'40.37173E	2448156.724	755611.276
P84	22°07'09.36532N	83°28'42.53064E	2448111.474	755673.921
P85	22°07'08.04970N	83°28'44.41387E	2448071.876	755728.569
P86	22°07'06.69845N	83°28'46.37556E	2448031.219	755785.484
P87	22°07'05.34280N	83°28'48.29791E	2447990.408	755841.274
P88	22°07'03.89122N	83°28'50.37745E	2447946.719	755901.619
P89	22°07'02.69844N	83°28'52.15838E	2447910.853	755953.274



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P90	22°07'01.44754N	83°28'54.45937E	2447873.443	756019.867
P91	22°07'00.42900N	83°28'56.41435E	2447843.019	756076.424
P92	22°06'59.26428N	83°28'58.62803E	2447808.220	756140.472
P93	22°06'58.07368N	83°29'00.77308E	2447772.592	756202.565
P94	22°06'56.93771N	83°29'02.80671E	2447738.594	756261.437
P95	22°06'56.03848N	83°29'04.50269E	2447711.721	756310.511
P96	22°06'55.14539N	83°29'06.16745E	2447685.023	756358.686
P97	22°06'54.08810N	83°29'08.05499E	2447653.377	756413.331
P98	22°06'53.05362N	83°29'09.99683E	2447622.458	756469.521
P99	22°06'52.27149N	83°29'11.47686E	2447599.086	756512.345
P100	22°06'51.46449N	83°29'12.95362E	2447574.951	756555.088
P101	22°06'50.05900N	83°29'15.31800E	2447532.816	756623.579
P102	22°06'52.80823N	83°29'15.10912E	2447617.304	756616.208
P103	22°06'54.68440N	83°29'15.02836E	2447674.992	756612.949
P104	22°06'56.77460N	83°29'14.91115E	2447739.247	756608.537
P105	22°06'58.57500N	83°29'14.81482E	2447794.596	756604.869
P106	22°07'00.48202N	83°29'14.71947E	2447853.225	756601.176
P107	22°07'02.75245N	83°29'14.61241E	2447923.030	756596.964
P108	22°07'04.54908N	83°29'14.50229E	2447978.256	756592.903
P109	22°07'06.81810N	83°29'14.39916E	2448048.020	756588.805
P110	22°07'08.98502N	83°29'14.28989E	2448114.639	756584.581
P111	22°07'11.35135N	83°29'14.15933E	2448187.384	756579.648
P112	22°07'13.50351N	83°29'14.05122E	2448253.550	756575.465
P113	22°07'16.03397N	83°29'13.94623E	2448331.356	756571.182
P114	22°07'18.06600N	83°29'13.85700E	2448393.335	756567.601
P115	22°07'17.67647N	83°29'14.64315E	2448382.219	756590.334
P116	22°07'16.72978N	83°29'16.55374E	2448353.987	756645.583
P117	22°07'15.74212N	83°29'18.39568E	2448324.464	756698.884
P118	22°07'14.76770N	83°29'20.19757E	2448295.329	756751.030
P119	22°07'13.89139N	83°29'21.81017E	2448269.124	756797.701
P120	22°07'12.90405N	83°29'23.65808E	2448239.613	756851.174



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P121	22°07'11.98699N	83°29'25.33610E	2448212.185	756899.741
P122	22°07'10.86007N	83°29'27.35174E	2448178.459	756958.093
P123	22°07'09.79830N	83°29'29.27280E	2448146.693	757013.701
P124	22°07'08.69109N	83°29'31.33772E	2448113.597	757073.456
P125	22°07'07.63947N	83°29'33.28204E	2448082.155	757129.726
P126	22°07'06.58368N	83°29'35.22816E	2448050.585	757186.050
P127	22°07'05.45169N	83°29'37.32116E	2448016.741	757246.624
P128	22°07'04.44275N	83°29'39.18121E	2447986.572	757300.458
P129	22°07'03.30473N	83°29'41.22631E	2447952.520	757359.661
P130	22°07'02.21742N	83°29'43.25315E	2447920.019	757418.316
P131	22°07'01.08432N	83°29'45.32485E	2447886.131	757478.281
P132	22°07'00.03398N	83°29'47.27911E	2447854.734	757534.837
P133	22°06'58.96494N	83°29'49.34726E	2447822.816	757594.668
P134	22°06'57.92216N	83°29'51.28654E	2447791.645	757650.792
P135	22°06'56.83765N	83°29'53.29251E	2447759.222	757708.848
P136	22°06'55.80185N	83°29'55.20548E	2447728.254	757764.214
P137	22°06'54.79880N	83°29'57.11738E	2447698.293	757819.533
P138	22°06'53.71278N	83°29'59.12482E	2447665.824	757877.634
P139	22°06'52.68020N	83°30'01.09094E	2447634.981	757934.523
P140	22°06'51.72388N	83°30'02.93178E	2447606.424	757987.782
P141	22°06'50.64611N	83°30'04.95020E	2447574.215	758046.193
P142	22°06'49.70295N	83°30'06.72140E	2447546.032	758097.449
P143	22°06'48.56549N	83°30'08.85129E	2447512.039	758159.088
P144	22°06'47.50953N	83°30'10.79255E	2447480.466	758215.277
P145	22°06'46.37499N	83°30'12.89224E	2447446.549	758276.048
P146	22°06'45.25548N	83°30'14.97515E	2447413.087	758336.391
P147	22°06'44.50936N	83°30'16.33724E	2447390.774	758375.759
P148	22°06'43.66357N	83°30'18.28681E	2447365.671	758432.081
P149	22°06'42.84165N	83°30'20.35408E	2447341.359	758491.766
P150	22°06'42.00316N	83°30'22.63512E	2447316.638	758557.588
P151	22°06'41.24597N	83°30'24.77976E	2447294.354	758619.458



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P152	22°06'40.39496N	83°30'27.01712E	2447269.227	758684.034
P153	22°06'39.67215N	83°30'29.12214E	2447247.983	758744.751
P154	22°06'38.90542N	83°30'31.18099E	2447225.365	758804.167
P155	22°06'38.28969N	83°30'33.43963E	2447207.489	758869.235
P156	22°06'37.72536N	83°30'35.74927E	2447191.218	758935.739
P157	22°06'37.14072N	83°30'38.01160E	2447174.300	759000.897
P158	22°06'36.59616N	83°30'40.30940E	2447158.633	759067.052
P159	22°06'36.02966N	83°30'42.56846E	2447142.272	759132.107
P160	22°06'35.46791N	83°30'44.77109E	2447126.031	759195.542
P161	22°06'34.92761N	83°30'47.08753E	2447110.504	759262.230
P162	22°06'34.45600N	83°30'48.90108E	2447096.853	759314.464
P163	22°06'33.70917N	83°30'51.05796E	2447074.896	759376.682
P164	22°06'32.80695N	83°30'53.20701E	2447048.155	759438.755
P165	22°06'32.00360N	83°30'55.12972E	2447024.349	759494.289
P166	22°06'31.14555N	83°30'57.12704E	2446998.895	759551.989
P167	22°06'30.27509N	83°30'59.14284E	2446973.069	759610.226
P168	22°06'29.48488N	83°31'00.93465E	2446949.606	759662.001
P169	22°06'28.58992N	83°31'02.98195E	2446923.041	759721.154
P170	22°06'27.72075N	83°31'05.04427E	2446897.277	759780.725
P171	22°06'26.94761N	83°31'06.84392E	2446874.343	759832.716
P172	22°06'26.16738N	83°31'08.60046E	2446851.170	759883.475
P173	22°06'24.21500N	83°31'12.63200E	2446793.014	760000.058
P174	22°06'27.26458N	83°31'10.36030E	2446885.765	759933.371
P175	22°06'29.00559N	83°31'09.08939E	2446938.729	759896.047
P176	22°06'30.72275N	83°31'07.84846E	2446990.973	759859.594
P177	22°06'32.52582N	83°31'06.53209E	2447045.825	759820.934
P178	22°06'34.27298N	83°31'05.25266E	2447098.974	759783.362
P179	22°06'36.05057N	83°31'03.94462E	2447153.046	759744.955
P180	22°06'37.59481N	83°31'02.82425E	2447200.028	759712.048
P181	22°06'39.40664N	83°31'01.53714E	2447255.164	759674.224
P182	22°06'40.95911N	83°31'00.39676E	2447302.389	759640.738



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P183	22°06'42.69552N	83°30'59.14398E	2447355.220	759603.938
P184	22°06'44.10338N	83°30'58.10936E	2447398.047	759573.559
P185	22°06'45.70374N	83°30'56.96567E	2447446.744	759539.955
P186	22°06'47.58582N	83°30'55.58170E	2447503.996	759499.319
P187	22°06'49.04420N	83°30'54.52120E	2447548.364	759468.173
P188	22°06'50.24242N	83°30'53.19040E	2447584.600	759429.411
P189	22°06'51.47872N	83°30'51.51502E	2447621.844	759380.749
P190	22°06'52.74384N	83°30'49.82722E	2447659.970	759331.718
P191	22°06'54.22250N	83°30'47.95447E	2447704.577	759277.276
P192	22°06'55.63761N	83°30'46.08576E	2447747.232	759222.982
P193	22°06'56.92758N	83°30'44.39560E	2447786.121	759173.871
P194	22°06'58.19539N	83°30'42.70494E	2447824.329	759124.757
P195	22°06'59.40777N	83°30'41.07185E	2447860.858	759077.323
P196	22°07'00.81537N	83°30'39.13886E	2447903.252	759021.191
P197	22°07'02.07858N	83°30'37.51255E	2447941.351	758973.925
P198	22°07'03.22700N	83°30'36.00623E	2447975.970	758930.158
P199	22°07'04.47217N	83°30'34.54428E	2448013.589	758887.614
P200	22°07'05.88662N	83°30'32.98351E	2448056.371	758842.150
P201	22°07'07.39008N	83°30'31.86201E	2448102.098	758809.236
P202	22°07'08.95919N	83°30'30.70570E	2448149.829	758775.290
P203	22°07'10.46782N	83°30'29.54612E	2448195.698	758741.281
P204	22°07'12.30950N	83°30'28.19472E	2448251.724	758701.604
P205	22°07'13.78663N	83°30'27.10550E	2448296.657	758669.629
P206	22°07'15.46130N	83°30'25.85980E	2448347.594	758633.068
P207	22°07'16.95613N	83°30'24.73027E	2448393.053	758599.928
P208	22°07'18.59839N	83°30'23.50783E	2448443.004	758564.051
P209	22°07'20.02762N	83°30'22.44471E	2448486.476	758532.849
P210	22°07'21.67070N	83°30'21.21401E	2448536.448	758496.734
P211	22°07'23.23486N	83°30'20.02900E	2448584.014	758461.970
P212	22°07'24.93445N	83°30'18.73615E	2448635.696	758424.046
P213	22°07'26.38375N	83°30'17.62614E	2448679.763	758391.490



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P214	22°07'28.13177N	83°30'16.31661E	2448732.927	758353.063
P215	22°07'29.90496N	83°30'14.98488E	2448786.856	758313.988
P216	22°07'31.83572N	83°30'13.53165E	2448845.575	758271.350
P217	22°07'33.75858N	83°30'12.09008E	2448904.056	758229.050
P218	22°07'35.52856N	83°30'10.74969E	2448957.882	758189.729
P219	22°07'37.25431N	83°30'09.47102E	2449010.376	758152.200
P220	22°07'39.00876N	83°30'08.13113E	2449063.724	758112.901
P221	22°07'40.48492N	83°30'06.94757E	2449108.584	758078.225
P222	22°07'41.97270N	83°30'05.77690E	2449153.807	758043.913
P223	22°07'43.44991N	83°30'04.68551E	2449198.742	758011.879
P224	22°07'45.22487N	83°30'03.35056E	2449252.724	757972.713
P225	22°07'46.79447N	83°30'02.12496E	2449300.439	757936.785
P226	22°07'48.67802N	83°30'00.63835E	2449357.691	757893.217
P227	22°07'50.49859N	83°29'59.19557E	2449413.025	757850.937
P228	22°07'52.12722N	83°29'57.90942E	2449462.528	757813.244
P229	22°07'53.95759N	83°29'56.49581E	2449518.178	757771.796
P230	22°07'55.78630N	83°29'55.09581E	2449573.783	757730.739
P231	22°07'57.58737N	83°29'53.69920E	2449628.540	757689.794
P232	22°07'59.22792N	83°29'52.45377E	2449678.429	757653.264
P233	22°08'00.87592N	83°29'51.28647E	2449728.584	757618.969
P234	22°08'02.55391N	83°29'50.11951E	2449779.662	757584.670
P235	22°08'03.77400N	83°29'49.27100E	2449816.803	757559.730
P236	22°08'02.68222N	83°29'47.32314E	2449782.293	757504.447
P237	22°08'01.73179N	83°29'45.64580E	2449752.261	757456.846
P238	22°08'00.85135N	83°29'44.11150E	2449724.450	757413.310
P239	22°08'00.28616N	83°29'43.12657E	2449706.596	757385.363
P240	22°08'02.20684N	83°29'41.73182E	2449765.035	757344.412
P241	22°08'03.84230N	83°29'40.68032E	2449814.859	757313.445
P242	22°08'05.66821N	83°29'39.51002E	2449870.487	757278.976
P243	22°08'07.72896N	83°29'38.18346E	2449933.268	757239.910
P244	22°08'09.35524N	83°29'37.11529E	2449982.802	757208.470



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Central Mining Planning and Design Institute

Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P245	22°08'11.35359N	83°29'35.77542E	2450043.656	757169.054
P246	22°08'13.08503N	83°29'34.66113E	2450096.405	757136.240
P247	22°08'14.86463N	83°29'33.51554E	2450150.620	757102.504
P248	22°08'16.84442N	83°29'32.23926E	2450210.933	757064.921
P249	22°08'34.63836N	83°29'20.69117E	2450752.983	756724.935
P250	22°08'36.49868N	83°29'19.47416E	2450809.649	756689.114
P251	22°08'38.44793N	83°29'18.24375E	2450869.045	756652.865
P252	22°08'40.38376N	83°29'16.99371E	2450928.019	756616.059
P253	22°08'42.13088N	83°29'15.83661E	2450981.230	756582.013
P254	22°08'43.90369N	83°29'14.67534E	2451035.230	756547.835
P255	22°08'45.65290N	83°29'13.54196E	2451088.517	756514.468
P256	22°08'47.65646N	83°29'12.24814E	2451149.555	756476.375
P257	22°08'49.72822N	83°29'10.90804E	2451212.669	756436.921
P258	22°08'51.49676N	83°29'09.74777E	2451266.538	756402.775
P259	22°08'53.69837N	83°29'08.28216E	2451333.589	756359.658
P260	22°08'55.85354N	83°29'06.89601E	2451399.248	756318.844
P261	22°08'57.88119N	83°29'05.60210E	2451461.027	756280.737
P262	22°08'59.79431N	83°29'04.34572E	2451519.299	756243.764
P263	22°09'01.77011N	83°29'03.09242E	2451579.502	756206.848
P264	22°09'03.76982N	83°29'01.82337E	2451640.433	756169.469
P265	22°09'05.71649N	83°29'00.59515E	2451699.752	756133.287
P266	22°09'07.69419N	83°28'59.32728E	2451760.006	756095.953
P267	22°09'09.89200N	83°28'57.87100E	2451826.945	756053.108
P268	22°09'11.70518N	83°28'56.14237E	2451881.922	756002.652
P269	22°09'13.58152N	83°28'54.38200E	2451938.828	755951.255
P270	22°09'15.40621N	83°28'52.68541E	2451994.174	755901.712
P271	22°09'17.26172N	83°28'50.92755E	2452050.440	755850.398
P272	22°09'19.08166N	83°28'49.22798E	2452105.639	755800.773
P273	22°09'20.76691N	83°28'47.66444E	2452156.758	755755.114
P274	22°09'22.45880N	83°28'46.08083E	2452208.072	755708.877
P275	22°09'23.98636N	83°28'44.66047E	2452254.407	755667.401



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P276	22°09'25.65248N	83°28'43.04919E	2452304.915	755620.385
P277	22°09'27.51578N	83°28'41.31693E	2452361.433	755569.803
P278	22°09'29.06543N	83°28'39.80234E	2452408.403	755525.616
P279	22°09'30.86536N	83°28'38.11087E	2452462.992	755476.236
P280	22°09'32.55200N	83°28'36.45097E	2452514.109	755427.817
P281	22°09'34.12952N	83°28'34.96941E	2452561.952	755384.564
P282	22°09'35.94036N	83°28'33.35773E	2452616.914	755337.465
P283	22°09'37.78340N	83°28'31.67916E	2452672.835	755288.433
P284	22°09'39.43268N	83°28'30.24032E	2452722.906	755246.370
P285	22°09'41.05920N	83°28'28.76491E	2452772.261	755203.270
P286	22°09'42.80319N	83°28'27.12439E	2452825.152	755155.379
P287	22°09'44.59545N	83°28'25.46175E	2452879.519	755106.831
P288	22°09'46.31608N	83°28'23.85916E	2452931.710	755060.040
P289	22°09'47.85779N	83°28'22.42049E	2452978.472	755018.036
P290	22°09'49.43438N	83°28'20.96948E	2453026.302	754975.662
P291	22°09'50.97878N	83°28'19.55489E	2453073.159	754934.348
P292	22°09'52.75277N	83°28'17.87335E	2453126.955	754885.269
P293	22°09'54.16081N	83°28'16.54929E	2453169.659	754846.618
P294	22°09'55.46647N	83°28'15.33461E	2453209.264	754811.153
P295	22°09'56.98615N	83°28'13.90113E	2453255.351	754769.311
P296	22°09'58.61665N	83°28'12.36700E	2453304.802	754724.529
P297	22°10'00.21275N	83°28'10.89925E	2453353.225	754681.667
P298	22°10'01.68283N	83°28'09.52465E	2453397.814	754641.538
P299	22°10'03.13219N	83°28'08.16298E	2453441.773	754601.790
P300	22°10'04.56169N	83°28'06.81926E	2453485.128	754562.566
P301	22°10'06.00640N	83°28'05.45226E	2453528.940	754522.668
P302	22°10'07.35714N	83°28'04.18265E	2453569.907	754485.608
P303	22°10'08.96325N	83°28'02.69455E	2453618.629	754442.159
P304	22°10'10.62852N	83°28'01.12091E	2453669.132	754396.230
P305	22°10'12.14262N	83°27'59.68433E	2453715.048	754354.304
P306	22°10'13.68340N	83°27'58.23452E	2453761.778	754311.986



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1991.11.10

Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P307	22°10'15.26956N	83°27'56.79758E	2453809.910	754270.014
P308	22°10'17.09832N	83°27'55.10201E	2453865.387	754220.510
P309	22°10'18.81108N	83°27'53.46687E	2453917.322	754172.796
P310	22°10'20.24465N	83°27'52.12866E	2453960.806	754133.731
P311	22°10'21.81791N	83°27'50.67699E	2454008.536	754091.344
P312	22°10'23.57408N	83°27'49.08522E	2454061.827	754044.852
P313	22°10'25.11128N	83°27'47.74214E	2454108.498	754005.596
P314	22°10'26.82839N	83°27'46.29805E	2454160.657	753963.356
P315	22°10'28.50270N	83°27'44.90957E	2454211.525	753922.731
P316	22°10'30.30245N	83°27'43.39456E	2454266.193	753878.418
P317	22°10'32.16991N	83°27'41.80771E	2454322.912	753832.012
P318	22°10'33.78513N	83°27'40.43509E	2454371.970	753791.872
P319	22°10'35.65080N	83°27'38.87826E	2454428.647	753746.329
P320	22°10'37.14489N	83°27'37.60158E	2454474.023	753708.999
P321	22°10'38.88910N	83°27'36.10553E	2454526.992	753665.258
P322	22°10'40.60163N	83°27'34.62241E	2454578.992	753621.904
P323	22°10'42.42910N	83°27'33.02511E	2454634.476	753575.221
P324	22°10'44.05269N	83°27'31.62553E	2454683.780	753534.306
P325	22°10'45.55396N	83°27'30.31581E	2454729.361	753496.026
P326	22°10'47.02150N	83°27'29.05520E	2454773.928	753459.172
P327	22°10'48.70097N	83°27'27.59916E	2454824.924	753416.611
P328	22°10'49.89100N	83°27'26.62400E	2454861.085	753388.075
P329	22°10'48.81386N	83°27'24.76991E	2454827.084	753335.483
P330	22°10'47.75412N	83°27'23.07936E	2454793.694	753287.568
P331	22°10'46.80622N	83°27'21.56724E	2454763.828	753244.710
P332	22°10'45.60995N	83°27'19.62581E	2454726.122	753189.674
P333	22°10'44.57956N	83°27'17.95005E	2454693.642	753142.168
P334	22°10'43.43280N	83°27'16.12987E	2454657.516	753090.581
P335	22°10'42.21485N	83°27'14.23196E	2454619.163	753036.802
P336	22°10'41.25934N	83°27'12.72594E	2454589.067	752994.122
P337	22°10'40.12625N	83°27'10.92632E	2454553.371	752943.117



cmpdi

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11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P338	22°10'39.04884N	83°27'09.20779E	2454519.426	752894.408
P339	22°10'37.90529N	83°27'07.37595E	2454483.393	752842.484
P340	22°10'36.65442N	83°27'05.39870E	2454443.992	752786.447
P341	22°10'35.34737N	83°27'03.35308E	2454402.831	752728.478
P342	22°10'34.03009N	83°27'01.25946E	2454361.333	752669.138
P343	22°10'32.82341N	83°26'59.32248E	2454323.311	752614.232
P344	22°10'31.65705N	83°26'57.39663E	2454286.534	752559.625
P345	22°10'30.34245N	83°26'55.29278E	2454245.115	752499.990
P346	22°10'29.26936N	83°26'53.59257E	2454211.312	752451.802
P347	22°10'27.93340N	83°26'51.52577E	2454169.254	752393.239
P348	22°10'26.64752N	83°26'49.53242E	2454128.769	752336.755
P349	22°10'25.39447N	83°26'47.57177E	2454089.311	752281.192
P350	22°10'24.23912N	83°26'45.77477E	2454052.934	752230.270
P351	22°10'22.90363N	83°26'43.68363E	2454010.879	752171.008
P352	22°10'21.66721N	83°26'41.70721E	2453971.925	752114.984
P353	22°10'20.52106N	83°26'39.87633E	2453935.816	752063.086
P354	22°10'19.40076N	83°26'38.11155E	2453900.533	752013.069
P355	22°10'18.23404N	83°26'36.31024E	2453863.806	751962.027
P356	22°10'16.95417N	83°26'34.26229E	2453823.483	751903.974
P357	22°10'15.77582N	83°26'32.34395E	2453786.344	751849.585
P358	22°10'14.63988N	83°26'30.46515E	2453750.528	751796.307
P359	22°10'13.53395N	83°26'28.62579E	2453715.654	751744.144
P360	22°10'12.40392N	83°26'26.84766E	2453680.067	751693.748
P361	22°10'11.11714N	83°26'24.79623E	2453639.531	751635.597
P362	22°10'09.89204N	83°26'22.82116E	2453600.929	751579.604
P363	22°10'08.90243N	83°26'21.25545E	2453569.760	751535.225
P364	22°10'07.65179N	83°26'19.28280E	2453530.374	751479.313
P365	22°10'06.32957N	83°26'17.19646E	2453488.732	751420.178
P366	22°10'05.17800N	83°26'15.43300E	2453452.490	751370.212
P367	22°10'03.81038N	83°26'15.43573E	2453410.415	751370.965
P368	22°10'01.83334N	83°26'15.43966E	2453349.589	751372.055



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Point ID	Geographical Co-ordinates (WGS-84)		UTM Co-ordinates (Zone-44)	
	Latitude	Longitude	Northing (m)	Easting (m)
P369	22°09'59.71720N	83°26'15.44386E	2453284.484	751373.221
P370	22°09'57.75046N	83°26'15.44778E	2453223.976	751374.305
P371	22°09'55.65530N	83°26'15.45195E	2453159.516	751375.46
P372	22°09'53.50749N	83°26'15.45622E	2453093.437	751376.644
P373	22°09'51.48713N	83°26'15.46024E	2453031.279	751377.757
P374	22°09'49.43568N	83°26'15.46432E	2452968.164	751378.888
P375	22°09'47.20124N	83°26'15.46877E	2452899.42	751380.12
P376	22°09'45.05305N	83°26'15.47305E	2452833.329	751381.304
P377	22°09'42.79820N	83°26'15.47754E	2452763.957	751382.547
P378	22°09'40.52179N	83°26'15.48208E	2452693.921	751383.801
P379	22°09'38.38390N	83°26'15.48633E	2452628.147	751384.979
P380	22°09'36.21472N	83°26'15.49066E	2452561.41	751386.175
P381	22°09'34.10907N	83°26'15.49486E	2452496.628	751387.336
P382	22°09'31.93932N	83°26'15.49918E	2452429.874	751388.532
P383	22°09'29.80123N	83°26'15.50345E	2452364.094	751389.71
P384	22°09'27.41759N	83°26'15.50820E	2452290.759	751391.024
P385	22°09'25.31290N	83°26'15.51240E	2452226.007	751392.184
P386	22°09'23.08934N	83°26'15.51684E	2452157.597	751393.409
P387	22°09'21.01594N	83°26'15.52098E	2452093.807	751394.552
P388	22°09'18.85725N	83°26'15.52529E	2452027.393	751395.742
P389	22°09'16.60182N	83°26'15.52979E	2451958.003	751396.985
P390	22°09'14.38990N	83°26'15.53421E	2451889.952	751398.204
P391	22°09'12.34741N	83°26'15.53829E	2451827.113	751399.33
P392	22°09'10.06069N	83°26'15.54286E	2451756.76	751400.59
P393	22°09'07.91211N	83°26'15.54715E	2451690.657	751401.774
P394	22°09'05.73167N	83°26'15.55151E	2451623.574	751402.976
P395	22°09'03.54074N	83°26'15.55589E	2451556.168	751404.184
P396	22°09'01.30706N	83°26'15.56036E	2451487.447	751405.415
P397	22°08'58.84844N	83°26'15.56528E	2451411.806	751406.77
P398	22°08'56.31617N	83°26'15.57035E	2451333.899	751408.166
P399	22°08'54.23189N	83°26'15.57452E	2451269.774	751409.314



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Table-II			
Point ID as Per Annexure III of F.No. 104/28/2015/NA Dated 13.10.2015	Point ID as Per Plan	WGS84 Latitude	WGS84 Longitude
A	P1	22°08'51.49500N	83°26'15.58000E
B	P366	22°10'05.17800N	83°26'15.43300E
C	P328	22°10'49.89100N	83°27'26.62400E
D	P267	22°09'09.89200N	83°28'57.87100E
E	P235	22°08'03.77400N	83°29'49.27100E
F	P173	22°06'24.21500N	83°31'12.63200E
G	P114	22°07'18.06600N	83°29'13.85700E
H	P101	22°06'50.05900N	83°29'15.31800E

DGPS SURVEY REPORT

For

FOREST AREA

Gare Palma Coal Block II, Tamnar, Dist.

Raigarh.

Submitted to:

To

The Chief Engineer (COAL),
Maharashtra State Power Generation Co. Ltd

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1.0 PROJECT BACKGROUND

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2.4 DGPS CONTROL SURVEY

2.5 GEOREFERENCING OF TOPOSHEET

3.0 LIST OF COORDINATES AND AREA STATEMENTS

4.0 SPECIFICATION OF EQUIPMENT & SOFTWARE

1.0 PROJECT BACKGROUND

The Nominated Authority, Ministry of coal, Govt. Of India , Vide its order no. 103/30/2015/NA dated 31.08.2015 and Corrigendum No1 Dated 17/02/2017 has allotted Gare Palma sector- II coal block to the Maharashtra State Power Generation Co. Ltd (MAHAGENCO) for utilization of coal for power projects.

For the development of the allotted coal Blocks, the first requirement is to mark the Block Boundary on the ground.

1.2 SCOPE OF WORK

The Learn Nature Consultants is assigned for the FCA Clearance of Gare Palma Coal Block II,
Tamnar, Dist. Raigarh.

The DGPS Points has been taken and boundary of Compartment is marked by DGPS point at every angle/Corner. All the points have been duly marked on the ground by stone pillars dully numbered.

2. METHODOLOGY

2.1 Input data

The land plan, maps of Gare Palma Coal Block II, Tamnar, Dist. Raigarh. required for geo-referencing was provided by MAHAGENCO to M/s Learn Nature Consultants along with the land schedules for desk study. The Topo-Sheet indicating the forest boundary was referred for mapping/ geo-referencing.

2.2 Desk Study

Based on the data and information provided by MAHAGENCO, the Primary and

Secondary Control Points (PCPs and SCPs) in the project area were planned. Location of the Points were decided from the Map provided to Learn Nature Consultants.

2.3 Establishment of Base Station/Primary Control Point (PCP)

The Primary Control Point was used to establish the DGPS base station for applying corrections to the Rover data. The primary control point was established on the Boundary of Gare Palma Coal Block II, Tamnar, Dist. Raigarh., which was used as the base station for DGPS Survey.

2.4 DGPS Control Survey

DGPS survey was carried out using a pair of DGPS instrument. One operating from a Fixed point (Known point) called as Base Station and other working as Rover, at points for which the co-ordinates were to be fixed. With the base station kept at the PCP fixed on the Boundary of Gare Palma Coal Block II, Tamnar, Dist. Raigarh. Rover observations were made in Static mode (15-20 minutes observations) at Secondary Control points identified by LNC's Officials. The base and rover observations were Post Processed using advanced software for obtaining the final SCP coordinates.

2.5 Geo-Referencing of TOPOSHEET

The relevant Topo-Sheet is Geo-referenced and registered in the AutoCAD Map software and the DGPS Point DATA was superimposed on the same to cross verification of registration process. The Secondary Control Coordinates fetched through DGPS instrument were used to geo-reference the total station survey data by applying the co-ordinate value of the field observation to the corresponding point on the map and the same is superimposed on Topo-Sheet.



Addl. Executive Engineer (Mining)
08889359752 SeCtOr-II Coalmine,
M.S.P.G.C.L.,Raigarh(C.G.) ,

LAND SCHUDLE							
क्र	ग्राम का नाम	पार्टीशन	खसरा क्र (नक्शा)	खसरा क्र (पांचशाला)	शासकीय भूमि		
					छोटे/बड़े झाड़ का जंगल		
					कुल क्षेत्रफल	आवेदित कुल क्षेत्रफल	विवरण
1	भालूमुड़ा		155 / 1	155 / 1		0.405	छोटे झाड़
2	भालूमुड़ा		155 / 5	155 / 5		0.809	छोटे झाड़
						1.214	
1	ढोलनारा		39	39/1		0.999	छोटे
2	ढोलनारा		46	46		0.299	छोटे
3	ढोलनारा		51	51		0.559	छोटे
4	ढोलनारा		157/1	157/1		0.162	छोटे
5	ढोलनारा		157/2	157/2		0.162	छोटे
6	ढोलनारा		158	158		0.405	छोटे
7	ढोलनारा	P	160	160/1		0.090	छोटे
8	ढोलनारा		160	160/12		0.202	छोटे
9	ढोलनारा		160	160/13		5.261	छोटे
	TOTAL					8.139	
1	गारे	P	162	162 / 1		0.525	छोटे झाड़
2	गारे	P	162	162 / 3		0.150	छोटे झाड़
3	गारे		165	165		0.878	छोटे झाड़
4	गारे		218	218		0.020	छोटे झाड़
5	गारे		247	247		0.032	छोटे झाड़
6	गारे		251	251		0.089	छोटे झाड़
7	गारे		296	296		0.368	छोटे झाड़ का जंगल
8	गारे		406	406		0.097	छोटे झाड़
	कुल		860		0.000	2.159	0.000
1	लिबरा		7 / 1	7 / 1		0.202	छोटे झाड़ के जंगल
2	लिबरा		9	9		0.097	छोटे झाड़ के जंगल
3	लिबरा		10	10		0.229	छोटे झाड़ के जंगल (घास)
4	लिबरा		13	13		0.214	छोटे झाड़ के जंगल (घास)
5	लिबरा		15 / 1क	15 / 1क		0.162	छोटे झाड़ के जंगल
6	लिबरा		20	20		0.045	छोटे झाड़ के जंगल
7	लिबरा		23	23 / 1क		0.947	छोटे झाड़ के जंगल
8	लिबरा		24	24 / 2		0.263	छोटे झाड़ के जंगल
9	लिबरा		139	139		0.717	छोटे झाड़ के जंगल
10	लिबरा		145 / 3	145 / 3		0.405	छोटे झाड़ के जंगल

LAND SCHUDLE							
क्र	ग्राम का नाम	पार्टीशन	खसरा क्र (नक्शा)	खसरा क्र (पांचशाला)	शासकीय भूमि		
					छोटे/बड़े झाड़ का जंगल		
					कुल क्षेत्रफल	आवेदित कुल क्षेत्रफल	विवरण
11	लिबरा		145 / 4	145 / 4		0.405	छोटे झाड़ के जंगल
12	लिबरा		149 / 2	149 / 2		0.243	छोटे झाड़ के जंगल
13	लिबरा		177	177		0.125	छोटे झाड़ के जंगल
14	लिबरा		184 / 1	184 / 1		0.510	छोटे झाड़ के जंगल
15	लिबरा		185	185		1.028	छोटे झाड़ के जंगल
16	लिबरा		191 / 1	191 / 1		0.458	छोटे झाड़ के जंगल
17	लिबरा		191 / 6	191 / 6		1.037	छोटे झाड़ के जंगल
18	लिबरा		198	198		0.386	छोटे झाड़ के जंगल
19	लिबरा		201 / 1	201 / 1		0.500	छोटे झाड़ के जंगल
20	लिबरा		201 / 3	201 / 3		1.214	छोटे झाड़ के जंगल
21	लिबरा		201 / 4	201 / 4		0.405	छोटे झाड़ के जंगल
22	लिबरा		201 / 5	201 / 5		0.809	छोटे झाड़ के जंगल
23	लिबरा		202 / 1ख	202 / 1ख		0.660	छोटे झाड़ के जंगल
24	लिबरा		202 / 2	202 / 2		0.134	छोटे झाड़ के जंगल
25	लिबरा		203	203 / 2		0.328	छोटे झाड़ के जंगल
26	लिबरा		203	203 / 3		0.142	छोटे झाड़ के जंगल
27	लिबरा		205 / 1	205 / 1		0.349	छोटे झाड़ के जंगल
28	लिबरा		207 / 1	207 / 1		0.180	छोटे झाड़ के जंगल
29	लिबरा		238	238		0.450	छोटे झाड़ के जंगल
30	लिबरा		304 / 3	304 / 3		0.429	छोटे झाड़ के जंगल
31	लिबरा		316	316		0.105	छोटे झाड़ के जंगल
32	लिबरा	P	325 / 1	325 / 1		0.038	छोटे झाड़ के जंगल
	कुल		357		0.000	13.216	
1	रोडोपाली		137	137		0.125	छोटे झाड़
	कुल		1011		0.000	0.125	
1	मुड़ागांव		4 / 1	4 / 1		2.103	छोटे झाड़ का जंगल
2	मुड़ागांव		74	74 / 1		0.202	छोटे झाड़ का जंगल
3	मुड़ागांव		103	103		0.125	छोटे झाड़ का जंगल
4	मुड़ागांव		110	110 / 1		0.347	छोटे झाड़ का जंगल
5	मुड़ागांव		162	162		0.105	छोटे झाड़ का जंगल
6	मुड़ागांव		198	198		0.158	छोटे झाड़ का जंगल
7	मुड़ागांव		205	205		2.250	छोटे झाड़ का जंगल
8	मुड़ागांव		235	235		2.278	छोटे झाड़ का जंगल

LAND SCHUDLE							
क्र	ग्राम का नाम	पार्टीशन	खसरा क्र (नक्शा)	खसरा क्र (पांचशाला)	शासकीय भूमि		
					छोटे/बड़े झाड़ का जंगल		
					कुल क्षेत्रफल	आवेदित कुल क्षेत्रफल	विवरण
9	मुड़ागांव		253	253		0.085	छोटे झाड़ का जंगल
10	मुड़ागांव		261	261		0.563	छोटे झाड़ का जंगल
	कुल		812		0.000	8.216	
1	सराईटोला		10	10 / 1क		3.064	छोटे झाड़
2	सराईटोला		10	10 / 1ड.		0.445	छोटे झाड़
3	सराईटोला		18 / 1	18 / 1		1.401	छोटे झाड़ का जंगल
4	सराईटोला		18 / 3	18 / 3		0.202	छोटे झाड़ (गोठान के लिए सुर.)
5	सराईटोला		18 / 4	18 / 4		0.405	छोटे झाड़ (खलिहान के लिए सुरक्षित)
6	सराईटोला		18 / 5	18 / 5		0.405	छोटे झाड़ (खाद कुड़ा के लिए सुरक्षित
7	सराईटोला	P	23	23 / 3		1.500	छोटे झाड़
8	सराईटोला	P	73 / 1	73 / 1		0.023	छोटे झाड़ का जंगल
9	सराईटोला		110 / 1	110 / 1		1.996	छोटे झाड़ का जंगल
10	सराईटोला		110 / 8	110 / 8		0.809	छोटे झाड़ का जंगल
11	सराईटोला		110 / 9	110 / 9		0.202	छोटे झाड़ का जंगल
12	सराईटोला		110 / 10	110 / 10		0.405	छोटे झाड़ का जंगल
13	सराईटोला		110 / 11	110 / 11		0.809	छोटे झाड़ का जंगल
14	सराईटोला		110 / 12	110 / 12		0.720	छोटे झाड़ का जंगल
15	सराईटोला		115	115		0.845	छोटे झाड़ का जंगल
16	सराईटोला		119	119		0.049	छोटे झाड़ घास श्मसान के लिए सुर.
17	सराईटोला		133 / 1	133 / 1		3.462	छोटे झाड़ का जंगल
18	सराईटोला		133 / 2	133 / 2		1.214	छोटे झाड़ का जंगल
19	सराईटोला		133 / 3	133 / 3		0.405	छोटे झाड़ का जंगल का कूरा करकट
20	सराईटोला		181	181 / 1		0.040	छोटे झाड़ का जंगल का कूरा करकट
21	सराईटोला		181	181 / 2		0.045	छोटे झाड़ का जंगल का कूरा करकट
22	सराईटोला		183	183		0.283	छोटे झाड़ का जंगल का कूरा करकट
	कुल		740		0.000	18.729	
1	पाता		55	55 / 4		0.162	छोटे झाड़

LAND SCHUDLE							
क्र	ग्राम का नाम	पार्टीशन	खसरा क्र (नक्शा)	खसरा क्र (पांचशाला)	शासकीय भूमि		
					छोटे/बड़े झाड का जंगल		
					कुल क्षेत्रफल	आवेदित कुल क्षेत्रफल	विवरण
2	पाता		137 / 4	137 / 4		0.053	छोटे झाड के जंगल मुर्दा मवेशी के लिए सुरक्षित
3	पाता		554	554		1.442	छोटे झाड का जंगल
4	पाता		627 / 1क	627 / 1क		8.405	छोटे झाड का जंगल
5	पाता		628	628 / 1		3.859	छोटे झाड का जंगल
6	पाता		628	628 / 2		0.202	छोटे झाड का जंगल
7	पाता		629 / 1क 630 / 3क	629 / 1क		2.444	छोटे झाड का जंगल
8	पाता		630 / 2	627 / 2 630 / 2 631 / 2		0.603	छोटे झाड का जंगल
9	पाता		629 / 1क 630 / 3क	630 / 3क		0.065	छोटे झाड का जंगल
10	पाता		631 / 3क	631 / 3क		0.024	छोटे झाड का जंगल
	कुल		1543		0.000	17.259	0.000
1	कुंजेमुरा		7 / 2	7 / 2		0.526	छोटे झाड का जंगल
2	कुंजेमुरा		34 / 1क	34 / 1क		7.292	छोटे झाड का जंगल
3	कुंजेमुरा		34 / 1ख	34 / 1ख		0.809	छोटे झाड का जंगल
4	कुंजेमुरा		34 / 1ग	34 / 1ग		0.809	छोटे झाड का जंगल
5	कुंजेमुरा		40	40 / 1		0.809	छोटे झाड का जंगल
6	कुंजेमुरा		52 / 6	52 / 6		0.061	छोटे झाड का जंगल
7	कुंजेमुरा		71	71		0.113	छोटे झाड का जंगल
8	कुंजेमुरा		84 / 2क	84 / 2क		4.746	छोटे झाड का जंगल
9	कुंजेमुरा		84 / 2ग	84 / 2ग, 86 / 6ग		0.404	छोटे झाड का जंगल
10	कुंजेमुरा		84 / 2ड.	84 / 2ड., 86 / 6ड.		1.416	छोटे झाड का जंगल
11	कुंजेमुरा		84 / 2च	84 / 2च, 86 / 6च		0.405	छोटे झाड का जंगल
12	कुंजेमुरा		84 / 2ढ	84 / 2ढ		2.226	छोटे झाड का जंगल
13	कुंजेमुरा		86 / 6क	86 / 6क		0.016	छोटे झाड का जंगल
14	कुंजेमुरा		271	271 / 1क		2.452	छोटे झाड का जंगल
15	कुंजेमुरा		279 / 1	279 / 1		1.400	छोटे झाड का जंगल
16	कुंजेमुरा		279 / 4	279 / 4		0.405	छोटे झाड के जंगल
17	कुंजेमुरा		281	281		0.518	छोटे झाड का जंगल
18	कुंजेमुरा		486	486 / 1		4.650	छोटे झाड का जंगल

LAND SCHUDLE							
क्र	ग्राम का नाम	पार्टीशन	खसरा क्र (नक्शा)	खसरा क्र (पांचशाला)	शासकीय भूमि		
					छोटे/बड़े झाड का जंगल		
					कुल क्षेत्रफल	आवेदित कुल क्षेत्रफल	विवरण
19	कुंजेमुरा		490 / 1ख	490 / 1ख		1.133	छोटे झाड का जंगल
	कुल		1004		0.000	30.190	
1	सरसमाल	P	39	39 / 1ख		0.814	छोटे
2	सरसमाल	P	39	39 / 1घ		0.010	छोटे
3	सरसमाल		58	58 / 1		0.668	छोटे
4	सरसमाल		60	60		0.628	छोटे
5	सरसमाल		83	83 / 1		0.016	बड़े
6	सरसमाल		90	90 / 4		11.002	बड़े
7	सरसमाल		94	94 / 1		0.474	छोटे
8	सरसमाल			104 / 2 क		1.542	छोटे
9	सरसमाल		118	118		0.304	छोटे
10	सरसमाल		122	122		0.429	छोटे
	कुल		322		0.000	15.887	
	कुल					115.134	

COMPARTMENT WISE DGPS CO-ORDINATES in UTM

Compartment Number 732P			
Point ID	North	East	Height
1	2454549.112	753437.879	302.148
3	2454549.105	753437.878	303.934
4	2454549.841	753435.989	302.998
5	2454541.423	753440.758	302.929
6	2454542.687	753434.263	302.68
7	2454545.755	753429.427	302.926
8	2454550.726	753428.754	302.91
9	2454854.237	753446.304	307.918
10	2454853.566	753448.154	309.033
11	2454851.554	753347.456	307.996
12	2454851.122	753346.496	308.803
13	2455090.478	753339.519	314.947
14	2455090.987	753340.836	315.813
15	2455218.882	753338.139	316.416
16	2455218.287	753339.233	317.486

17	2455276.31	753339.908	316.006
18	2455280.022	753342.123	314.884
19	2455282.533	753342.985	315.288
20	2455272.582	753384.334	319.533
21	2455273.342	753384.793	318.705
22	2455291.205	753450.409	320.846
23	2455321.132	753554.016	317.634
24	2455337.295	753612.366	317.677
25	2455226.129	753611.966	313.952
26	2455192.405	753609.021	317.79
27	2455192.709	753610.206	316.868
28	2455174.383	753673.078	315.505
29	2455164.838	753718.516	314.5
30	2455163.868	753718.467	313.501
31	2455078.094	753686.761	312.333
32	2455080.064	753686.413	313.682
33	2455196.568	753526.828	317.815
34	2455196.673	753525.393	318.983
35	2455080.028	753454.438	316.93
36	2455079.667	753453.649	316.887
37	2455040.306	753540.854	316.267
38	2454982.855	753649.916	313.951
39	2454981.412	753649.423	314.796
40	2454897.077	753820.768	310.705
41	2454890.293	753831.532	311.515
42	2454890.53	753830.418	310.553
43	2454887.421	753833.611	310.292
44	2454799.111	753869.413	307.531
45	2454800.785	753868.73	306.639
46	2454798.135	753868.824	306.697
47	2454789.554	753864.94	306.424
48	2454667.828	753776.79	306.22
49	2454669.601	753777.835	305.411
50	2454662.089	753768.584	305.276
51	2454587.773	753613.195	301.092
52	2454584.316	753606.089	302.228
53	2454585.27	753606.153	301.86
54	2454579.514	753590.658	303.504
55	2454580.46	753591.267	303.039
56	2454567.333	753529.048	303.578
57	2454566.843	753527.977	303.503

58	2454539.785	753514.941	302.833
59	2454544.525	753512.967	302.866
60	2454548.407	753508.737	303.074
61	2454547.95	753502.029	303.32
62	2454549.114	753437.877	304.034
Compartment Number 741P			
Point ID	North	East	Height
1	2474443.935	1376420.168	285.685
3	2474459.153	1376419.146	284.811
4	2474363.783	1376448.007	283.905
7	2474336.717	1376447.523	280.784
8	2474266.283	1376448.745	278.926
9	2474267.801	1376486.895	280.146
10	2474269.11	1376513.95	280.276
11	2474192.126	1376513.216	280.116
12	2474064.068	1376462.583	277.419
13	2474051.249	1376449.029	276.159
14	2474047.182	1376447.751	276.116
15	2474061.508	1376402.172	275.787
16	2474054.866	1376383.632	275.622
17	2474050.139	1376383.255	275.539
18	2474049.067	1376311.782	274.713
19	2474044.357	1376311.302	274.495
20	2474064.792	1376315.839	276.118
21	2474123.96	1376292.687	275.019
22	2474250.518	1376256.415	278.173
23	2474261.571	1376178.024	275.889
24	2474300.833	1376128.501	275.142
25	2474328.96	1376102.474	275.632
26	2474387.477	1376037.409	274.267
27	2474467.353	1375942.902	276.435
28	2474467.359	1375908.053	275.952
29	2474496.471	1375889.885	275.497
30	2474546.031	1375869.464	277.226
31	2474550.47	1375877.349	277.447
32	2474630.439	1375826.213	280.219
33	2474628.173	1375840.245	278.858
34	2474592.551	1375853.652	278.337
35	2474707.312	1375757.359	278.139
36	2474714.827	1375777.053	278.572
37	2474765.91	1375756.53	280.484

38	2474813.935	1375762.102	281.002
39	2474823.309	1375761.295	281.319
40	2474828.136	1375763.64	281.332
41	2474838.425	1375730.177	281.175
42	2474843.176	1375730.393	281.035
43	2474876.854	1375722.655	281.334
44	2475054.602	1375736.697	282.458
45	2475207.296	1375752.4	282.914
46	2475236.896	1375753.692	282.862
47	2475280.838	1375725.827	285.769
48	2475398.494	1375665.366	283.448
49	2475501.819	1375620.719	284.808
50	2475532.19	1375717.243	285.238
51	2475528.081	1375773.854	286.167
52	2475533.718	1375798.164	285.088
53	2475502.932	1375828.227	285.308
54	2475489.761	1375871.267	284.934
55	2475465.788	1375907.326	285.137
56	2475472.238	1375925.819	284.541
57	2475471.679	1375916.541	284.519
58	2475472.819	1375904.812	284.484
59	2475475.846	1375899.594	284.406
60	2475484.327	1375892.804	284.775
61	2475489.815	1375889.306	285.323
62	2475475.463	1375878.554	284.582
63	2475461.25	1375911.035	284.301
64	2475415.35	1375932.119	283.005
65	2475410.194	1375914.73	283.852
66	2475396.13	1375928.586	282.881
67	2475380.444	1375942.091	282.853
68	2475374.346	1375950.031	282.289
69	2475352.855	1375970.793	281.914
70	2475338.15	1375987.935	281.97
71	2475337.4	1375953.73	283.123
72	2475307.786	1375975.497	282.997
73	2475252.679	1375982.117	284.208
74	2475169.529	1375994.867	285.008
75	2474997.598	1376095.989	284.507
76	2474999.999	1376098.222	283.815
77	2474975.189	1376103.956	283.826
78	2474955.179	1376105.106	283.822

79	2474917.02	1376101.462	285.872
80	2474898.87	1376097.949	284.579
81	2474731.982	1376105.648	286.29
82	2474729.563	1376138.129	285.196
83	2474719.548	1376142.151	285.901
84	2474667.963	1376171.547	284.097
85	2474556.977	1376189.211	282.013
86	2474543.329	1376185.106	281.853
87	2474513.211	1376230.552	281.75
88	2474529.192	1376304.657	283.262
89	2474504.122	1376373.429	283.931
90	2474443.912	1376420.164	283.89
91	2474370.641	1376427.841	282.594
92	2474739.162	1375906.145	282.609
93	2474735.813	1375903.366	282.608
94	2474737.468	1375904.898	282.69
95	2474845.049	1375713.362	281.05
96	2474843.205	1375712.979	280.833
97	2474847.445	1375713.561	280.837
98	2474840.238	1375737.289	281.119
99	2474838.489	1375736.515	281.268
100	2474836.442	1375735.377	281.037
101	2474824.079	1375759.638	281.302
102	2474825.999	1375760.976	281.479
103	2474828.67	1375763.168	281.274
104	2474773.56	1375844.964	282.34
105	2474775.158	1375846.365	282.423
106	2474777.666	1375847.952	282.261
InfoBasePT	2474420.814	1376373.936	281.653
Compartment Number 740P			
PointID	PointID	East	Height
1	2452944.032	754629.207	281.542
2	2452944.039	754629.213	281.578
3	2452946.3	754611.004	281.562
4	2452947.448	754609.098	281.601
5	2452948.71	754606.456	281.477
6	2452941.339	754548.38	281.589
7	2452942.534	754511.476	282.302
8	2452933.111	754468.324	284.513
9	2452943.655	754466.952	282.203
10	2452989.346	754464.959	282.137

11	2452991.616	754451.147	282.576
12	2453083.925	754443.594	284.678
13	2453112.089	754400.004	284.631
14	2453158.361	754391.612	284.1
15	2453227.727	754384.467	285.699
16	2453290.809	754378.386	286.078
17	2453292.397	754312.409	283.473
18	2453340.911	754312.535	285.602
19	2453339.109	754304.819	283.502
20	2453405.591	754295.497	284.191
21	2453434.647	754291.015	284.865
22	2453468.693	754285.03	286.09
23	2453498.603	754286.007	286.923
24	2453594.732	754276.048	288.101
25	2453647.96	754272.944	286.863
26	2453652.133	754274.002	286.383
27	2453628.137	754345.039	291.203
28	2453629.012	754350.898	290.383
29	2453623.626	754414.632	290.876
30	2453624.524	754415.842	290.883
31	2453598.576	754456.762	290.787
32	2453600.11	754459.533	289.923
33	2453597.78	754471.352	289.764
34	2453588.711	754470.329	290.076
35	2453589.82	754484.317	289.534
36	2453573.099	754483.354	289.427
37	2453567.444	754520.844	289.567
38	2453567.894	754524.138	289.59
39	2453568.984	754527.368	289.399
40	2453549.944	754529.019	289.1
41	2453549.72	754531.274	289.015
42	2453550.581	754535.595	289.144
43	2453553.589	754540.939	289.52
44	2453558.037	754580.201	288.263
45	2453523.943	754529.291	288.593
46	2453523.323	754529.58	288.597
47	2453522.015	754529.781	288.68
48	2453520.196	754535.449	288.514
49	2453419.188	754524.318	287.324
50	2453425.122	754579.203	285.665
51	2453384.249	754526.247	286.63

52	2453388.168	754519.75	286.749
53	2453381.389	754511.41	286.674
54	2453378.165	754464.506	286.992
55	2453369.472	754453.483	286.801
56	2453370.198	754465.754	285.422
57	2453328.079	754453.649	286.374
58	2453331.766	754448.323	286.546
59	2453321.362	754455.574	286.506
60	2453324.202	754460.328	288.058
61	2453288.388	754530.28	285.391
62	2453283.527	754557.087	284.123
63	2453256.448	754602.894	284.171
64	2453255.869	754613.02	283.541
65	2453245.269	754617.299	283.686
66	2453233.36	754626.831	286.114
67	2453240.636	754630.876	281.659
68	2453196.133	754643.557	283.232
69	2453184.223	754648.866	283.146
70	2453161.171	754657.463	283.332
71	2453088.8	754657.745	282.814
72	2453074.472	754663.69	282.842
73	2453033.381	754649.989	282.288
74	2453026.289	754652.385	280.987
75	2453003.168	754635.056	281.889
76	2452944.024	754629.186	281.534
Compartment Number 744P			
Point ID	North	East	Height
1	2449693.244	754257.372	271.159
2	2449693.239	754257.378	271.168
3	2449693.268	754256.954	271.712
4	2449666.012	754248.764	270.583
5	2449666.14	754249.759	270.598
6	2449667.019	754246.964	270.642
7	2449665.425	754233.757	270.497
8	2449663.982	754203.85	270.332
9	2449662.415	754173.582	270.073
10	2449660.241	754143.498	269.846
11	2449657.8	754113.434	269.491
12	2449655.141	754083.321	269.152
13	2449652.409	754053.267	268.792
14	2449652.462	754046.134	268.563

15	2449648.429	754005.164	268.067
16	2449645.209	753977.479	267.919
17	2449620.451	753987.128	267.564
18	2449596.683	753999.036	267.538
19	2449573.117	754011.848	267
20	2449548.061	754026.75	266.913
21	2449528.973	754040.773	265.571
22	2449514.712	754051.324	266.378
23	2449501.844	754058.189	265.999
24	2449491.356	754063.246	266.709
25	2449481.464	754069.148	266.412
26	2449468.512	754088.576	265.288
27	2449453.13	754113.267	265.962
28	2449444.638	754125.643	265.077
29	2449435.905	754140.466	266.453
30	2449426.699	754159.22	266.346
31	2449417.551	754176.805	266.093
32	2449389.882	754235.47	265.081
33	2449372.214	754270.969	265.075
34	2449344.09	754336.771	265.361
35	2449323.782	754382.636	266.055
36	2449323.866	754386.291	266.075
37	2449354.946	754399.208	265.953
38	2449393.583	754411.615	266.344
39	2449435.335	754425.138	268.255
40	2449477.864	754439.39	267.79
41	2449518.713	754452.554	269.824
42	2449568.315	754469.139	270.712
43	2449601.489	754480.072	271.116
44	2449629.469	754489.111	271.605
45	2449650.663	754494.516	272.727
46	2449676.643	754504.613	272.517
47	2449673.969	754444.683	271.893
48	2449671.445	754384.273	271.487
49	2449669.349	754338.954	271.186
50	2449667.431	754293.843	270.854
51	2449666.26	754263.883	270.7
InfoBasePT	2449691.117	754244.799	270.704
235	2449693.242	754257.371	273.318
236	2449677.366	754504.362	274.863
237	2449705.457	754510.472	274.435

238	2449748.082	754524.554	275.375
239	2449790.453	754532.184	275.507
240	2449846.265	754531.057	275.87
241	2449888.458	754528.319	276.074
242	2449941.59	754521.846	276.329
243	2449947.849	754516.22	276.121
244	2449953.083	754507.006	276.17
245	2449957.197	754495.131	276.332
246	2449967.216	754442.559	276.954
247	2449979.417	754370.403	277.385
248	2449990.116	754306.454	277.359
249	2449990.886	754306.655	277.47
250	2449991.304	754302.675	277.267
251	2449991.375	754302.344	277.496
252	2449999.555	754256.284	277.697
253	2450008.44	754202.905	277.425
254	2450016.865	754143.46	277.045
255	2450027.329	754074.898	276.464
256	2450035.225	754025.837	276.156
257	2450038.349	753999.518	275.781
258	2449982.729	753990.327	275.136
259	2449936.402	753982.254	274.259
260	2449889.361	753974.221	273.405
261	2449824.063	753964.297	272.455
262	2449792.482	753961.295	271.742
263	2449767.043	753959.398	271.547
264	2449733.429	753960.886	269.967
265	2449697.481	753965.277	269.47
266	2449667.452	753970.156	269.549
267	2449645.239	753977.34	269.998
268	2449693.249	754257.369	273.307
Compartment Number 745P			
Point ID	North	East	Height
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2	2447455.388	756457.434	274.811
3	2447461.568	755334.595	264.611
4	2447462.746	755330.672	263.615
5	2447466.228	755320.713	261.963
6	2447298.657	755274.319	259.32
7	2447304.027	755212.983	251.959
8	2447461.236	755385.269	266.327

9	2447466.156	755388.032	266.061
10	2447458.728	755446.881	266.247
11	2447453	755536.054	266.929
12	2447442.704	755626.151	267.615
13	2447436.488	755711.249	267.832
14	2447449.855	755807.927	268.394
15	2447449.386	755808.348	268.392
16	2447447.643	755810.83	268.436
17	2447446.491	755814.073	268.651
18	2447454.137	755814.563	268.551
19	2447459.263	755819.802	268.602
20	2447463.638	755817.736	268.546
21	2447463.236	755833.084	268.608
22	2447467.809	755836.668	269.028
23	2447464.252	755902.68	268.664
24	2447464.189	755918.484	268.371
25	2447459.216	755917.476	268.305
26	2447454.735	755929.101	268.752
27	2447461.195	755929.646	268.491
28	2447457.325	755927.765	268.848
29	2447453.603	755926.861	268.511
30	2447449.261	755994.091	269.328
31	2447421.287	756048.53	269.666
32	2447388.347	756125.435	270.208
33	2447373.702	756157.087	270.476
34	2447366.04	756190.18	271.223
35	2447342.065	756336.136	273.046
36	2447344.552	756380.643	273.25
37	2447347.049	756427.017	273.313
38	2447352.059	756524.321	273.698
39	2447355.937	756592.303	272.478
40	2447357.731	756651.314	272.744
41	2447358.629	756756.185	275.358
42	2447357.553	756756.411	275.277
43	2447388.176	756763.3	275.992
44	2447381.109	756767.29	276.432
45	2447377.298	756844.138	278.018
46	2447374.349	756849.876	276.15
47	2447473.111	756874.37	277.108
48	2447478.347	756870.102	277.131
49	2447478.789	756871.462	276.545

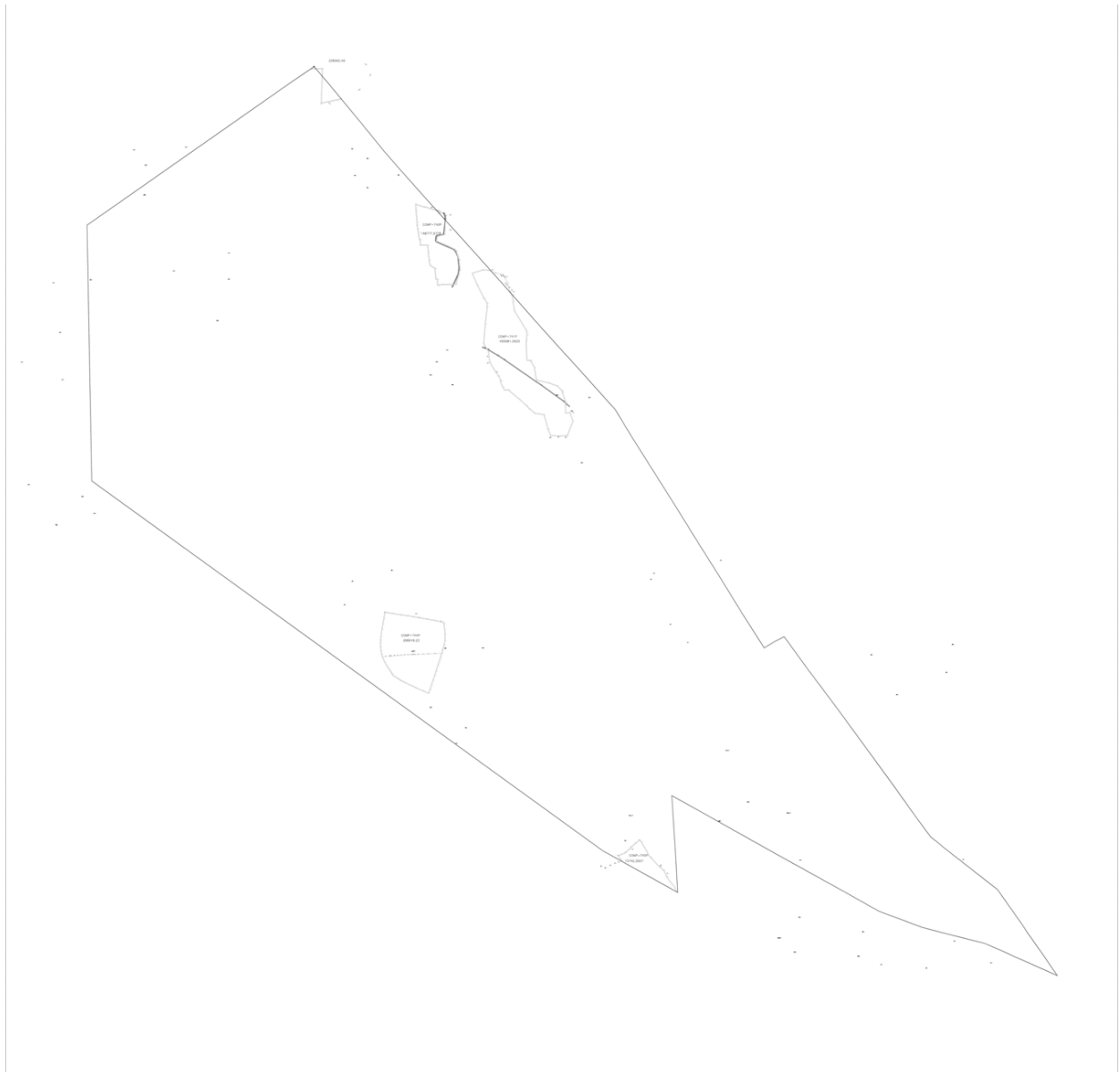
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54	2447495.482	756752.503	278.236
55	2447497.373	756756.777	277.053
56	2447500.567	756751.804	278.51
57	2447501.273	756707.814	278.938
58	2447509.909	756622.49	277.605
59	2447524.158	756612.896	277.602
60	2447551.205	756601.943	277.011
61	2447570.554	756582.547	276.831
62	2447602.66	756570.979	276.917
63	2447664.678	756518.988	274.14
64	2447696.954	756497.678	272.03
65	2447701.591	756495.514	272.236
66	2447727.483	756502.291	271.231
67	2447755.254	756470.76	270.639
68	2447782.282	756436.346	268.116
69	2447785.765	756436.379	268.562
70	2447792.834	756440.358	269.604
71	2447799.991	756444.625	268.509
74	2447455.393	756457.427	276.562
75	2447867.015	756356.446	266.027
76	2447873.554	756346.771	265.3
77	2447926.346	756317.482	264.589
78	2448009.914	756269.99	262.9
79	2448022.131	756254.7	259.034
80	2448022.399	756252.866	258.699
81	2447992.495	756219.628	260.259
82	2447992.922	756217.88	259.546
83	2447961.972	756182.608	262.095
84	2447960.883	756183.818	262.063
85	2447960.058	756183.397	261.993
86	2447940	756192.597	262.378
87	2447943.812	756167.531	262.142
88	2447936.6	756158.116	261.087
89	2447910.276	756131.581	261.192
90	2447912.289	756130.176	261.028
91	2447884.633	756065.955	256.618
92	2447883.688	756066.8	255.868

93	2447884.556	756063.87	255.182
94	2447844.695	756094.13	264.755
95	2447834.64	756093.097	264.408
96	2447826.69	756070.197	263.786
97	2447815.688	756038.173	262.573
98	2447816.783	756038	262.017
99	2447797.867	755997.739	261.358
100	2447798.25	755994.832	260.816
101	2447774.452	755953.149	265.745
102	2447775.444	755952.021	265.158
103	2447786.658	755913.342	258.14
104	2447790.121	755913.619	257.673
105	2447791.037	755914.914	256.472
106	2447802.036	755828.918	251.733
107	2447782.719	755826.39	259.165
108	2447777.816	755762.576	262.162
109	2447777.463	755680.556	259.927
110	2447779.821	755680.343	260.217
111	2447776.794	755646.139	256.319
112	2447778.565	755646.482	255.523
113	2447747.72	755578.01	255.734
114	2447748.515	755576.911	255.469
115	2447734.729	755552.046	257.266
116	2447735.544	755551.228	256.827
117	2447722.58	755524.86	258.199
118	2447723.501	755524.539	258.022
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133	2447534.748	755305.311	254.596

134	2447267.898	755119.495	251.753
135	2447268.056	755113.198	255.407
136	2447275.397	755113.466	254.612
137	2447261.128	755082.145	256.747
138	2447233.534	755018.84	254.795
139	2447215.203	754985.857	255.321
140	2447181.331	754945.274	264.124
141	2447185.741	754946.032	262.684
142	2447159.705	754902.459	261.165
143	2447091.984	754829.889	261.286
144	2447058.039	754802.423	260.422
145	2447060.163	754801.207	259.302
146	2447020.593	754743.288	257.568
147	2447025.53	754719.242	258.386
148	2446982.066	754703.84	258.221
149	2446941.621	754667.772	264.186
150	2446943.576	754663.32	263.895
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152	2446919.085	754651.256	261.972
153	2446915.866	754648.678	263.289
154	2446915.695	754646.888	263.199
155	2446860.043	754625.037	263.671
156	2446760.226	754588.436	263.701
157	2446758.239	754594.945	263.766
158	2446680.188	754473.407	256.082
159	2446671.718	754461.12	258.995
160	2446675.006	754328.564	251.186
161	2446694.203	754249.223	254.344
162	2446685.209	754248.808	255.412
163	2446689.561	754191.855	250.928
164	2446666.588	754156.837	254.508
165	2446703.392	754070.535	254.636
166	2446718.473	754023.711	256.198
167	2446716.756	753944.316	251.147
168	2446734.255	753902.838	251.909
169	2446776.975	753908.061	251.903
170	2446788.792	753903.656	252.044
171	2446850.26	753762.131	261.04
172	2446742.141	753750.908	260.885
173	2446741.947	753746.79	260.989
174	2446741.699	753742.07	260.838

175	2446815.204	753736.885	261.141
176	2446741.69	753742.073	261.89
177	2446815.208	753736.875	261.879
178	2446896.372	753764.886	262.652
179	2446926.603	753779.569	262.719
180	2446967.899	753807.413	262.067
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183	2447016.036	753851.692	262.844
184	2447119.42	753908.357	262.801
185	2447133.705	753939.014	261.776
186	2447151.108	753976.405	264.317
187	2447196.756	754034.534	261.505
188	2447280.08	753998.316	262.294
189	2447361.194	754010.86	262.741
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192	2447376.513	754242.315	263.458
193	2447374.982	754243.999	263.605
194	2447388.145	754296.868	262.849
195	2447296.789	754314.362	263.59
196	2447259.638	754310.691	264.027
197	2447260.03	754312.477	265.264
198	2447295.942	754348.519	263.38
199	2447289.486	754399.869	263.039
200	2447307.652	754403.688	264.255
201	2447304.038	754428.115	263.76
202	2447298.083	754437.875	264.095
203	2447293.489	754437.993	263.822
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205	2447169.915	754455.056	265.104
206	2447131.007	754510.804	265.746
207	2447128.121	754508.792	264.227
208	2447126.185	754651.013	265.524
209	2447121.918	754651.245	264.105
210	2447162.853	754720.576	264.343
211	2447200.975	754777.868	266.075
212	2447200.359	754786.968	264.783
213	2447232.246	754798.92	264.562
214	2447289.035	754844.208	265.211
215	2447356.032	754896.283	264.546

216	2447428.14	754934.06	265.37
217	2447483.848	754972.649	265.439
218	2447529.562	755018.268	265.495
219	2447559.331	755046.469	266.213
220	2447601.75	755067.054	266.033
221	2447672.068	755096.028	265.69
222	2447672.909	755092.951	267.162
223	2447789.839	755119.948	261.02
224	2447834.711	755133.523	264.868
225	2447835.824	755133.946	265.073
226	2447840.209	755135.596	266.85
227	2447840.059	755137.861	266.638
228	2447856.695	755146.274	266.438
229	2447811.487	755193.637	260.578
230	2447792.1	755214.229	258.989
231	2447724.197	755285.066	257.871
232	2447699.341	755319.846	257.233
233	2447695.879	755320.379	256.593
234	2447695.277	755318.537	256.592



Map 1: Forest Area Map inside the Boundary of Gare Palma Coal Block II



TOPOSHEET GARE PALMA CAL BLOCK II

मध्य प्रदेश, उड़ीसा
MADHYA PRADESH, ORISSA

FIRST EDITION

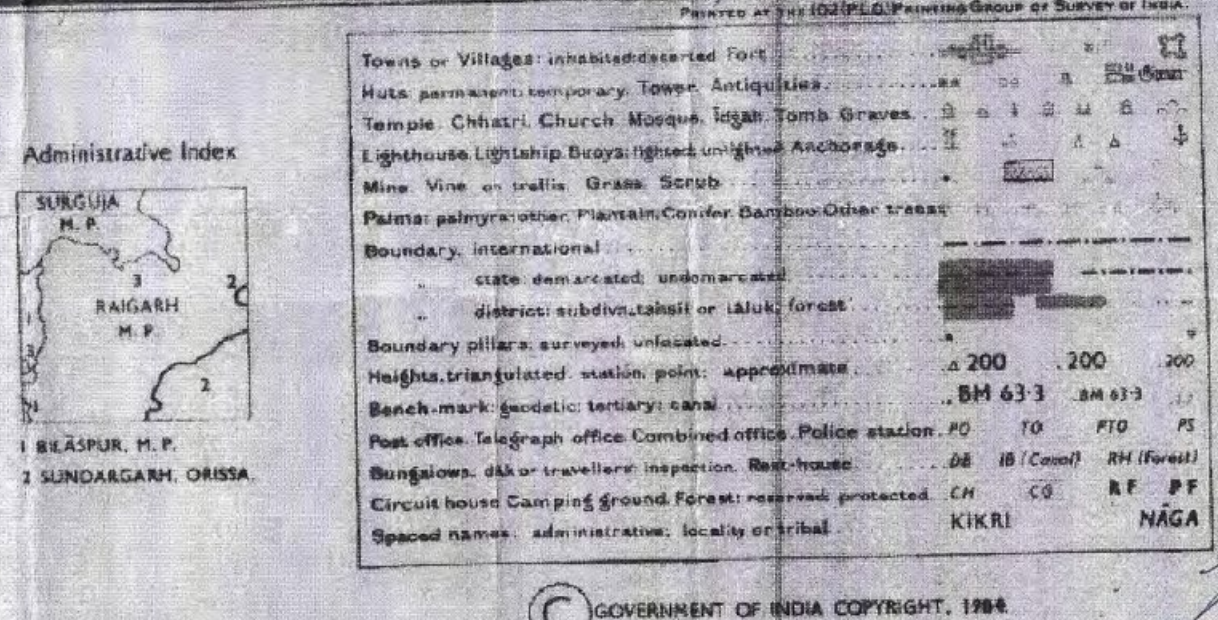
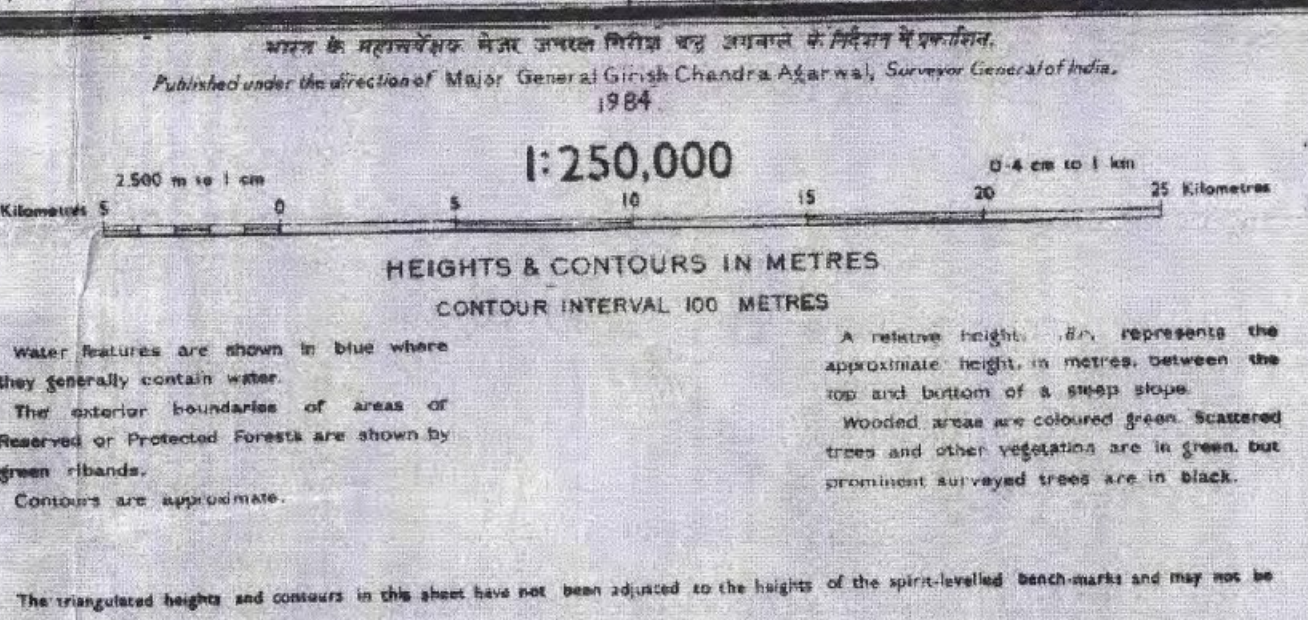
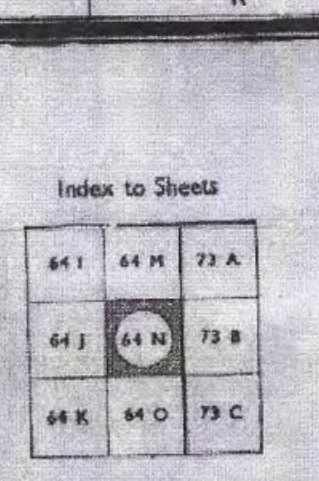
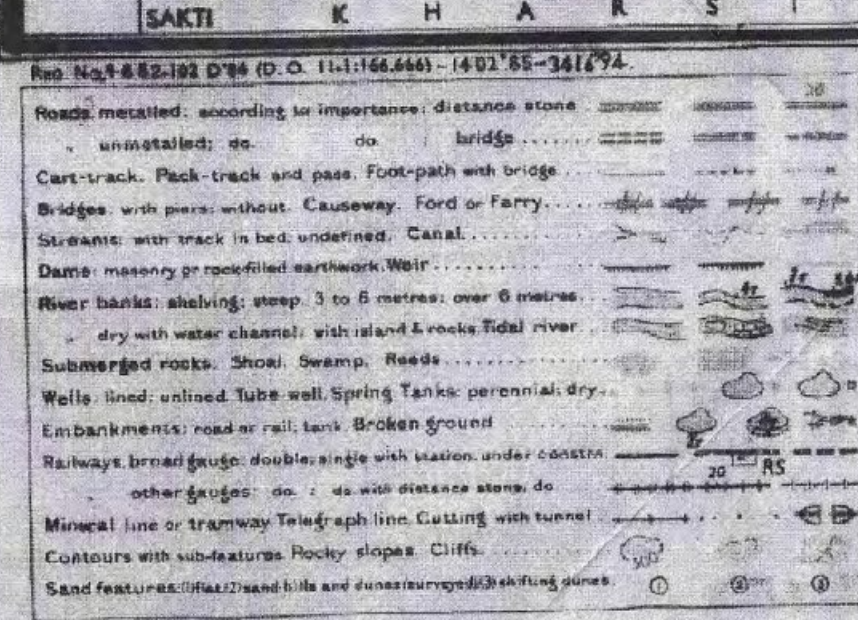
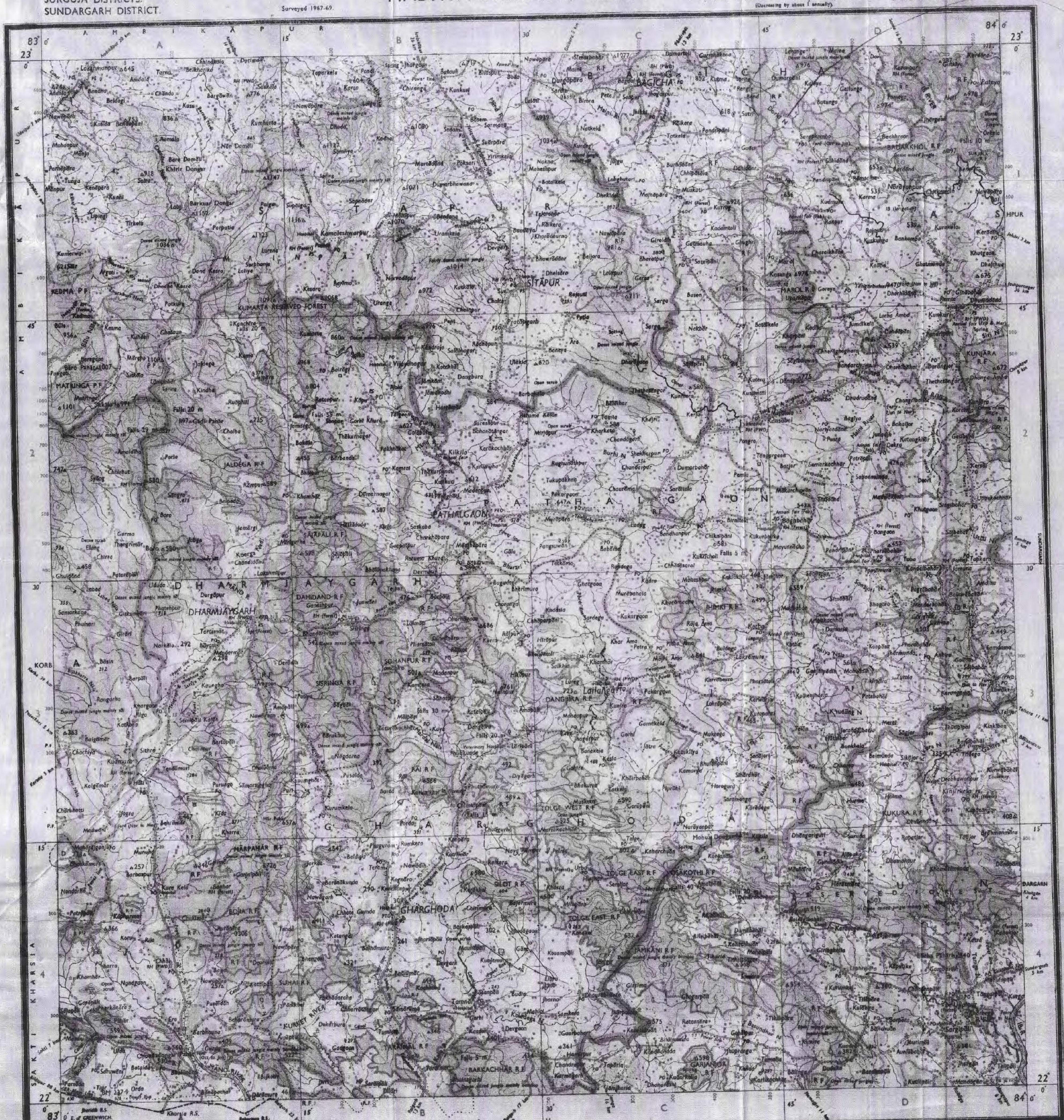
SHEET 64 N FIRST EDITION

No. 64 N
DHARMJAYGARH

BILASPUR, RAIGARH AND
SURGUJA DISTRICTS.
SUNDARGARH DISTRICT.

Surveyed 1967-69.

Magnetic Variation from True North about 1° West in 1980.
(Decreasing by about 1' annually).



REFER TO THIS MAP AS: I:250,000
SHEET 64 N FIRST EDITION

वन प्रविष्टि अधिकारी
तमनार

वन प्रविष्टि अधिकारी
रायगढ़ जिल्ला

वन प्रविष्टि अधिकारी
रायगढ़ जिल्ला

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in the central part of the image, surrounded by various reserved forests including the Sirot Reserved Forest to the north, Tolge West and East Reserved Forests to the east, and Barkachhar Reserved Forest to the south. The map also shows numerous rivers, streams, and settlements, as well as other geographical features like the OP Jindal Industrial Park and the Nalwa Plant. The map is overlaid with a grid showing coordinates and topographic details.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by extensive reserved forests, including the Sirot Reserved Forest, Tolge West Reserved Forest, Tolge East Reserved Forest, and Barkachhar Reserved Forest. The terrain is depicted with contour lines, indicating varying elevations. Several rivers and streams are shown, such as the Koldi Nala and Gerwani Nala. Numerous settlements and villages are marked, including Jhinkhal, Punjipathra, and Gerwani. The map also shows various types of vegetation, such as dense mixed jungle, open scrub, and fairer dense jungle. A scale bar indicates a distance of 10.00 KM. The map is overlaid with a grid showing coordinates like 22°15' and 83°25'.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by extensive reserved forests, including the Sirot Reserved Forest, Tolge West Reserved Forest, Tolge East Reserved Forest, and Barkachhar Reserved Forest. The terrain is depicted with contour lines indicating elevation. Major settlements such as Jhinkhal, Jhinkhal, and Jhinkhal are visible. The map also shows various geographical features like rivers (e.g., Kailash Nala, Kailash Nala) and roads. A scale bar indicates a distance of 10.00 KM. The map is labeled with coordinates 22° 15' N and 83° 25' E.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by dense mixed jungle, primarily consisting of sal and bamboo. The coal block is divided into sections labeled A, B, C, D, E, F, G, and H. Surrounding the coal block are several reserved forests, including the Sirot Reserved Forest to the north, Tolge West Reserved Forest to the northwest, Tolge East Reserved Forest to the northeast, and Barkachhar Reserved Forest to the south. The map also shows various settlements, rivers, and topographical features. A scale bar indicates a distance of 10.00 KM. The map is overlaid with a grid showing coordinates 22° 15' N and 83° 25' E.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
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The map displays the Gare Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by dense mixed jungle, primarily consisting of sal and bamboo. The coal block is divided into sections labeled A, B, C, D, E, F, G, and H. Surrounding the coal block are several reserved forests, including the Sirot Reserved Forest to the north, Tolge West Reserved Forest to the northeast, Tolge East Reserved Forest to the east, and Barkachhar Reserved Forest to the south. The map also shows various settlements, rivers, and topographical features. A scale bar indicates a distance of 10.00 KM. The map is overlaid with a grid showing coordinates 22° 15' N and 83° 25' E.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map shows the coal block boundary in red, with various reserved forests and local infrastructure. Key locations include Jhinkhal, Durgamunda, and various reserved forests. The map includes labels for various locations like Jhinkhal, Durgamunda, and various reserved forests. The map includes labels for various locations like Jhinkhal, Durgamunda, and various reserved forests.

GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
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The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by extensive reserved forests, including the Sirot Reserved Forest, Tolge West Reserved Forest, Tolge East Reserved Forest, and Barkachhar Reserved Forest. The terrain is depicted with contour lines, indicating varying elevations. Several rivers and streams are shown, such as the Koldi Nala and Gerwani Nala. Key settlements and locations marked include Jhinkhal, Punjipathra, Taraimal, and Gerwani. The map also shows various types of vegetation, such as dense mixed jungle, open scrub, and bamboo. A scale bar indicates a distance of 10.00 KM. The map is overlaid with a grid showing coordinates like 22°15' and 83°25'.

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GARE PALMA SECTOR II COAL BLOCK
Scale : 1:50,000
Toposheet No. : 64N/8 & 64N/12

The map displays the Gare-Palma Sector II Coal Block, outlined in red. It is situated in a region characterized by dense mixed jungle, primarily consisting of sal and bamboo. The coal block is divided into sections labeled A, B, C, D, E, F, G, and H. Surrounding the coal block are several reserved forests, including the Sirot Reserved Forest to the north, Tolge West Reserved Forest to the northwest, Tolge East Reserved Forest to the northeast, and Barkachhar Reserved Forest to the south. The map also shows various settlements, rivers, and topographical features. A scale bar indicates a distance of 10.00 KM. The map is overlaid with a grid showing coordinates 22° 15' N and 83° 25' E.

