URANIUM EXPLORATION IN INDIA

Web site: www.amd.gov.in
email: amdhyd@ap.nic.in
Airborne Geophysical Survey

Ternary (U-Th-K) raw grid image

Field Camp, Meghalaya

Surveys:
- Radiometric Survey
- I/P Resistivity Survey
- Seismic Survey
- Crawler mounted Hydrostatic rig
- Exploratory mining at Gogi

Uranium exploration

Radioactive sandstone, Umthongkut, Meghalaya

Exploration:
- AMD

Evaluation:
- Prospecting
• Proterozoic basins for Unconformity & Strata-bound U-mineralization.

• Phanerozoic sediments for Sandstone type U-mineralization.

• Deep crustal shears for vein and metasomatite type U-mineralization.

• Archaean volcano-sedimentary domains for QPC type U-mineralization.

• Arid regions for Calcrete type of U-mineralization.
URANIUM EXPLORATION STRATEGY

HELIBORNE GEOPHYSIAL SURVEY

✓ Time Domain Electromagnetic (TDEM) Airborne Survey is a useful Technique for locating deep seated concealed high grade large tonnage uranium deposit.

✓ AMD has planned Heliborne Geophysical Survey using TDEM, Magnetic and Radiometric survey in Proterozoic Basins of India
> 300000 Line km during next five years

EXPLORATORY DRILLING

Subsequent sub-surface exploration has also been planned by >700000m of departmental and contract drilling modes.
Singhbhum Shear Zone, Jharkhand

Six mines
One mine under construction
Two mills for beneficiation
Nineteen uranium deposits
Uranium mineralisation in Cuddapah basin, A. P.

Unconformity related uranium mineralisation:
**Deposits**
- Chitrial
- Lambapur
- Peddagattu
- Koppunuru

Dolostone hosted stratabound uranium mineralisation:
**Deposits**
- Tummalapalle
- Rachakuntapalle
- Kanampalle
Uranium Mineralisation at Lambapur

SECTION ALONG BOREHOLES LBR/107(C), 111(C), 114(C), 121(C) & 161(C)

OVERBURDEN
MASSIVE QUARTZITE
INTERCALATED QUARTZITE AND SHALE
SHALE
PEBBLY / GRITTY QUARTZITE

UNCONFORMITY
BASEMENT GRANITE
MINERALISED ZONE WITH 0.020% eUO₃ x 1.20 m cut-off
MINERALISED ZONE WITH 0.010 % eUO₃ cut-off

Srisailam Quartzite
Basement Granite
01/01/2003
TUMMALAPALLE URANIUM DEPOSIT, KADAPA DISTRICT, ANDHRA PRADESH

1. Nagareddipalle (W)
2. Nagareddipalle (E)
3. Motnuthalapalle
4. Kanampalle
5. Tummalapalle II
6. Tummalapalle I
7. Rachakuntapalle
8. Rachakuntapalle (E)
9. Gidagivaripalle
10. B.K Palle
11. V.M Palle

MINING BLOCK

TUMMALAPALLE MILL

Vempalle Formation
Gulcheru Formation
Basement
Granite/Gneiss

TRANSVERSE SECTION THROUGH BOREHOLE TPL-II/51, 63, 52 & 57,81, 83, 86 AND HYPOTHETICAL SECTION THROUGH BOREHOLE TPL-II/87 TUMMALAPALLE BLOCK-II, KADAPA DISTRICT, A.P.

Index
- OVERBURDEN
- BASIC DYKE
- CHERTY LIMESTONE
- PURPLE SHALE
- PHOSPHATIC DOLOSTONE
- CONGLOMERATE
- MASSIVE LIMESTONE
- FERRUGINOUS SHALE
- QUARTZITE
- MINERALISED ZONE

Vempalle Formation
Gulcheru Formation

3 km
Major Uranium Deposits

- Rohil, North Delhi Fold Belt (Vein Type)
- Gogi, Bhima Basin (Vein Type)
- Domiasiat, Wahkyn, Mahadeks (Sandstone type)
- Jaduguda, Narwapahar (Singhbhum Shear Zone, Vein Type)
- Lambapur, Chitrial (Unconformity related)
- Tummalapalle, S Cuddapah Basin (Stratabound)

URANIUM DEPOSITS IN INDIA
Uranium Corporation of India

Jharkhand:
Operating mines at Jaduguda, Bhatin, Narwapahar, Turamdih, Bagjata, Banduhurang; Plants at Jaduguda and Turamdih; Mine construction at Mohuldih; Plant expansion at Turamdih

Andhra Pradesh
Mine and plant construction at Tummalapalle; Plan for expansion

Plan for construction of mine and plant at Lambapur

Meghalaya
Plan for mine and plant construction at KP M

Karnataka
Plan for mine and plant construction at Gogi
FUTURE URANIUM SUPPLY SCENARIO

INDIGENOUS PRODUCTION

- Operating mines & Plants
- Operating units under capacity expansion
- New mines & Plants
  - Under construction
  - Planned for construction

OVERSEAS OPPORTUNITIES

- Possibility of acquisition of uranium properties
  - Possibility of other sources
    - Sea water, Lignite, phosphate rock etc. (at R&D stage)
Beach and inland placer deposits

Index to Localities
1. Ranchi
2. Purulia
3. Chatrapur
4. Donkuru-Barua
5. Bhavanapadu
6. Kaligapatnam
7. Srikurmam
8. Bhimunipatnam
9. Kakinada
10. Suryalanka- Nizampatnam
11. Kalpakam
12. Karaikal
13. Surangudi- Sevalpatti Teris
14. Kuttampulli-Naduvakurichi Teris
15. Kudirai Mozhi Teris
16. Sattan-Vijayapuram Teris
17. Navaladi-Kuttapanai-Periathalai
18. Vembar-Naripaiyur
19. Kudankulam
20. Manavalakuruchi
21. Vayakkalur, Inayam-Midalam
22. Chavara
23. Kayamkulam
24. Arattupuzha
25. Thottapalli
26. Ponnani-Chavakkad
27. Ratnagiri
28. Brahmagiri
29. Gopalpur
30. Koyyam
Andhra Pradesh: Nellore Mica Belt(3), Mahaboobnagar(17), Kanigiri(18), Rudramkota(29), Kasipatnam(30).
Assam and Arunachal Pradesh: Samchampi(28), West Kameng(25).
Bihar: Bihar Mica Belt(1), Deo River, Girma, Kalwai(10), Kanyauka, Puram Jundgri(21).
Gujarat: Ambadongar(7), Vaswa Nade(11), Limboi, Umedpur(31).
Karnataka: Holenarsipur, Krishnarajapet and Nagammangal Schist Belt(4).
Kerala: Trivendrum(24).
Madhya Pradesh: Metapal, Challampa and Bodenar Group(5), Siri River(9), Sarguja(12).
Maharashtra: Salai-Pannai(13), Ratnagiri(16).
Meghalaya: Sung Valley(8).
Tamil Nadu: Kullampatti(6), Sevattur(22), Idaiyattimampatti(23), Palai(26).
Orissa: Koraput(14), Sambalpur-Jharsuguda(15), Gokhandi(20).
Rajasthan: Rajasthan Mica Belt(2), Buelna(27).
West Bengal: Purulia and Northern Shear Zone(19).